

***NCERT CONTRIBUTIONS
IN
EDUCATIONAL TECHNOLOGY***

1990 - 2000

Compiled by

Dr. J. P. MITTAL



PLANNING PROGRAMMING MONITORING AND EVALUATION DIVISION
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
SRI AUROBINDO MARG, NEW DELHI - 110016

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Foreword

The National Council of Educational Research and Training has been providing significant inputs and academic support, through its various constituents, in different areas of school education, since its inception in 1961. The main source of documentation of these inputs have been the Annual Reports of the NCERT. But it has been observed that the Annual Reports were not easily available to the faculty in the past and these are mostly out of stock for the initial 15-20 years.

The present document titled 'NCERT Contributions in Educational Technology (1990-2000)', is a decennial compilation of NCERT's inputs in Educational Technology. Credit goes to Dr. J. P. Mittal, Reader, Planning, Programming, Monitoring and Evaluation Division for conceiving the idea and developing the document by collecting relevant information from Annual Reports of the NCERT.

I hope the document will be useful to all those who are interested in NCERT's inputs in Educational Technology / School Education. It will also be helpful in self-orientation of incoming faculty.

R. P. Gupta
Head

CONTENTS

Foreword

Educational Technology	(1)
I 1990-91	1
II 1991-92	8
III 1992-93	15
IV 1993-94	22
V 1994-95	29
VI 1995-96	43
VII 1996-97	47
VIII 1997-98	54
IX 1998-99	59
X 1999-2000	65

I

EDUCATIONAL TECHNOLOGY

1990-91

One of the significant programmes of the NCERT is to promote educational technology, particularly mass media, in the improvement and spread of education in the country and for the development of alternative systems of education. The Central Institute of Educational Technology (CIET) primarily develops software relevant to the educational needs, trains personnel working in the field of educational technology, and conducts research and evaluation of systems, programmes and materials in educational technology. It provides consultancy and disseminates information in the area of educational media and technology. The CIET also coordinates the activities of the State Institutes of Educational Technology (SIETs) and provides programme and technical support to them.

During the period under report, the main thrust of the activities of the CIET was towards producing materials for handicapped children, girls, catering to special needs of Navodaya Vidyalayas and providing media support to Operation Blackboard.

The CIET, headed by a Joint Director, functions through seven Divisions viz., the Educational Television (ETV) Division; the Distance Education, Planning Coordination, Research and Evaluation, Scripting and Training (DEPCREST) Division, the Educational Radio (ER) Division; the Graphics, Exhibition, Photo & Film (GEP&F) Division, the Information and Documentation (ID) Division, the Technical Planning, Operations and Maintenance (TPOM) Division, and the Administrative and Accounts Division.

During 1990-91, the emphasis of the ETV Division remained on production of ETV software in the area of teachers' training under Operation Blackboard and providing media support to Navodaya Vidyalayas for teaching Yoga. The DEPCREST Division paid special attention to the training of ET personnel of DIETs, monitoring the utilisation of ETV services in the INSAT States and development of self-instructional manuals for the ETV and radio user teachers. The IR Division generally worked in the programme areas of "equality of sexes" and "children with special needs, particularly the educable mentally handicapped". The GEP&F Division completed two films under the 'Land and People' series. The ID Division took steps to collect basic information from a large number of media institutes all over the country for preparing a directory of institutes of educational media. In the TPOM Division, the second television studio (which has computerised controlled TV studio cameras and related equipment, and motorised remote controlled sophisticated lighting system), was operationalised. The high-band and low-band video tape U-Matic recording facilities, and servicing the studios were also operationalised.

Research/Evaluation Activities

The following studies were carried out during the period under report:

(i) A Study on ETV Utilisation in Orissa

A study, covering 235 TV schools in 11 selected blocks, spread over all the three INSAT districts in the State, namely Bolangir, Dhenkanal and Sambalpur,

revealed that the ETV programmes were received with enthusiasm both by the children and their teachers. However, children were exposed to ETV programmes in 57% TV schools only. The two prominent reasons for TV sets not being utilised were

- TV set out of order
- Disconnection and erratic electric supply

Another study revealed that a large number of TV schools did not use the medium mainly because of lack of awareness about the time of the telecast

(ii) *A Study on ETV Utilization in Bihar*

The study indicated that only one-third of the TV sets were in functional order. A large majority of the TV sets (59%) were kept away from school premises by the teachers for one reason or the other. Lack of security for safe custody of TV sets and irregular electric supply were two major problems faced by the TV schools in Bihar.

(iii) *A Study on ETV Utilization in Andhra Pradesh*

The survey, carried out in four INSAT districts of Andhra Pradesh, revealed that the electric supply position in the ETV schools was satisfactory. However, 65% of the TV schools had not been supplied with the antenna which proved to be a major hindrance in the utilization of the medium

(iv) *A Study of Children's General Awareness*

The CIET took up a study to find out the level of children's general awareness about specified topics on which ETV programmes had been telecast. A battery of nine tests was devised and administered on a sample of 150 rural children drawn from seven villages of Hoshangabad district of Madhya Pradesh. The findings indicate children's visual ability in identifying objects in some selected areas such as birds and animals, national leaders etc. Children's proficiency in reading graphics revealed that, at lower level, children were unable to read titles and other visual materials but, with experience, at grade V, titles assumed a useful role and better comprehension

(v) *A Study on Effects of Comics and Comic Television Serials on Children*

The study revealed that comic book and cartoon television series were popular among children for their pictorial and animated presentation. Children liked to read/watch detective comics the most, followed by classics, historical and folk tales. Adults considered comics useful in broadening knowledge of children and combining message with entertainment.

(vi) *Evaluation of Audio Series on India's Common Cultural Heritage*

The CIET initiated a study to evaluate its audio series on India's common cultural heritage. In a one-day workshop held in December, 1990, the evaluation questionnaires and the strategy of data collection were formulated. 24 audio programmes were given to three schools in Delhi along with the questionnaire for evaluation. The study is in the final stage of completion.

Development of Educational Materials

The CIET continued to develop educational software comprising of ETV programmes, audio programmes, films, charts, slides and other materials.

ETV Programmes for Children and Teachers

105 new ETV programmes, addressed to children and teachers at the primary stage, mainly for feeding the Satellite INSAT-1, were produced during the year. This number included a series of 20 programmes on YOGA, produced in collaboration with the Navodaya Vidyalaya Samiti, and 15 programmes for teachers on various themes covered under the 'Operation Black Board Scheme'.

65 ETV programmes in Hindi were dubbed in Oriya for telecast, bringing the total number of ETV programmes produced by the CIET since 1984-85 to 613 and their 869 language versions.

The ETV programmes, produced by the CIET and the SIEs, were telecast for 3 hours, from Monday through Saturday, on all school days as well as during

summer vacation, in five different languages, on a time-sharing basis for the benefit of the six INSAT states, namely Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Uttar Pradesh. In addition, the Hindi version of the ETV programmes produced by the CIET and the SIETs at Lucknow and Patna were relayed by all the HPTs and LPTs in other Hindi speaking States namely, Haryana, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan and the Union Territory of Chandigarh. Selected ETV programmes produced by the CIET were telecast by the Delhi Doordarshan Kendra and networked to 150 transmitters of Doordarshan. These Programmes were featured in the children's programmes in evening transmissions.

The CIET prepared 650 capsule tapes in Hindi

10 audio programmes, developed for children with special needs, were field tested in three institutions for the mentally handicapped children. Also, eight audio programmes on Social Studies for children of Class VI were sent to three Navodaya Vidyalayas for field testing.

Educational Films

Two 16 mm colour films on West Coast Part IV covering (i) Green Gold Gujarat Coast, and (ii) Proud Sentinel-Konkan, in the Geography series on 'Land and People' were completed.

The CIET has 61 educational films on various subject areas.

Six films on Land and People series, non-formal

S No	Theme of the Series	Target Group	No of Audio Programmes produced
1	Letters of Pandit Jawahar Lal Nehru to his daughter	Upper Primary	28
2	Equality of Sexes	Upper Primary	20
3	Social Studies for Children of Class VI of Navodaya Vidyalayas and other Schools	Upper Primary	16
4	Children with Special Needs	Primary	20

and 400 capsule tapes in Oriya for transmission via Satellite.

The CIET also commissioned out eight titles on video to outside producers on request from the Department of Education in Social Sciences and Humanities, the Department of Vocationalization of Education, and the Department of Pre-School and Elementary Education of the NIE. Three ETV programmes were completed during the period.

Audio Programmes

During 1990-91, 84 new audio programmes (about 18 hours of programmes), covering five different educational series, were produced as detailed above.

education and techniques of photography are under various stages of completion.

Educational Charts

A series of Working Group meetings were organised during 1990-91 to develop Biology charts related to the curriculum of Classes XI and XII. The charts are under preparation.

Earlier, a set of 22 Biology charts, 20 Physics charts and 20 Geography charts had been completed for Classes IX and X. The Biology charts for Classes IX and X have been adopted by the Navodaya Vidyalaya Samiti. Two sets, each comprising 22 Biology charts, are being supplied to all Navodaya Vidyalayas.

Colour Slides

About 1000 colour slides in respect of Rajasthan, Coorg (Karnataka), Nilgiris and Annamalai Hills (Tamil Nadu), in the series on Land, People and Monuments were prepared. A write-up on each category of slides was also prepared. The idea is to develop a visual bank in the CIET on the people, dresses, food habits, land scape, historical and cultural monuments of different States/Union Territories of India. Some DIETs have shown interest in acquiring the slide programmes.

Print Materials

Two manuals, one on use of television and the other on use of radio-cum-cassette-recorder and player

in the classroom, were developed, both in English and Hindi, for the user teachers at the Primary level. The MHRD proposes to distribute these manuals to the schools all over the country where colour TV sets and RCCPs are being deployed for educational purposes.

Workshops/Meetings

Fifteen workshops/working group meetings were organised for preparation of ETV curriculum, development of themes and finalisation of scripts of audio programmes in different areas, preparation of charts, low-cost teaching aids in various areas, development of model syllabi in ET at B Ed and M Ed levels, and for other such developmental programmes. The details are given in Table 1.

TABLE 1

Workshops/Working Group Meetings conducted by the CIET during 1990-91

S No	Name of the Activity	Dates	Venue	No of Participants
1	CIET-SIET Coordination Committee Meeting	3 to 4 May, 1990	CIET, New Delhi	26
2	Workshop on development of ETV Scripts for the Operation Black Board Programme	8 May, 1990	CIET, New Delhi	26
3	Workshop for validating the Hindi Version of the Manual for using TV and Radio in Classroom	6 June, 1990	CIET, New Delhi	10
4	Advisory Committee Meeting on development of Programmes for Educable Mentally Handicapped Children	8 June 1990	CIET, New Delhi	12
5	Meeting on development of Audio Programmes on Social Studies for Children of Navodaya Vidyalayas and other Schools class-VI	28 June, 1990	CIET, New Delhi	10
6	Working Group Meeting for development of Diploma Course in Educational Technology-10 meetings of 2-3 days each	June 1990 to November, 1990	CIET, New Delhi	5-10 in each meeting

1990-91

S No	Name of the Activity	Dates	Venue	No of Participants
7	Workshop on development of Audio Programmes in the Core Curricular Area of 'Equality of Sexes'	18 to 20 July, 1990	CIET, New Delhi	12
8	Workshop on development of Audio Programmes for the Educable Mentally Handicapped Children	22 to 24 August, 1990	CIET, New Delhi	19
9	Working Group Meetings for development of Biology Charts related to Curriculum of Classes XI-XIII - 7 one day meetings	August 1990 to March, 1991	CIET, New Delhi	7 to 10 in each meeting
10	Workshop on development of Low Cost Teaching Aids	11 to 15 September, 1990	Rajghat J Krishnamurthy Education Centre, Varanasi, UP	35
11	Workshop on development of Model Syllabi in Educational Technology for B Ed and M Ed Courses	18 to 12 September, 1990	CIET, New Delhi	17
12	CIET-SIET Coordination Committee Meetings	23 to 24 October 1990	CIET, New Delhi	24
13	Workshop on development of ETV Scripts for Teachers at the Primary Level on Social Studies two meetings of 5 days each	18 to 22 December, 1990 20 to 26 March, 1991	RCE Ajmer CIET, New Delhi	9-10 in each meeting
14	National Workshop for updating Programme Briefs for ETV Production	28 January to 2 February, 1991	CIET, New Delhi	35
15	Working Group Meeting to finalise the Manual on Low Cost Teaching Aids in Mathematics	4-15 March, 1991	CIET, New Delhi	9

Training Programmes

The CIET organised eleven orientation/training programmes pertaining to technical operations and maintenance, scriptwriting, research techniques, and

orientation and applications of educational technology for personnel of the SIETs, DIETs, teacher educators and others. Details of the training programmes are given in Table 2.

TABLE 2

Training/Orientation Courses organised by the CIET during 1990-91

S No	Title of the Programme	Date	Venue	No. of Participants
1	Orientation Course in ET for Lecturers (ET) of DIETs	11 to 12 June, 1990	CIET, New Delhi	14
2	Training Course on Maintenance of Video Equipment (Camera Chain) supplied by BEL, Bangalore	4 to 3 July, 1990	BEL, Bangalore	8

S No	Title of the Programme	Date	Venue	No. of Participants
3	Orientation Course in ET for Lecturers (ET) of DIETs	30 July to 10 August, 1990	CIET, New Delhi	25
4	Training Course on Maintenance of Audio Equipment	20 to 27 August, 1990	MELTRON, Bombay	10
5	Training Course on Maintenance of Video Equipment (ENG, Camera and Low band DTBC-VCR etc) supplied by GCEL, Vadodra	15 to 27 September, 1990	GCEL, Vadodra	5
6	Training Course on maintenance of Video Equipment (ENG camera & low-band DTBC-VCR etc) supplied by GCEL, Vadodra	15 to 22 September, 1990	GCEL, Vadodra	9
7	Technical Training/Maintenance Course on Video Equipment (vision mixer) supplied by BEL, Bangalore	20 to 26 November, 1990	BEL, Bangalore	8
8	Orientation course for University Teachers, Training Colleges, SCERTs in Educational Technology	1 to 28 December, 1990	CIET, New Delhi	17
9	Integrated Training Course for Script-Writing and production of Audio/Radio Programmes for Educational purpose	21 January to 15 February, 1991	CIET, New Delhi	32
10	Training in Research and Evaluation in Media for the Research Staff of the SIETs	21 to 25 January, 1991	CIET, New Delhi	11
11	Orientation Course in ET for Lecturers (ET) of DIETs	28 January to 15 February, 1991	CIET, New Delhi	28

Extension Activities

The CIET organised the following extension programmes during the year under report

i) Language Teaching through Non broadcast Mode

The CIET continued to support the extension of the project on teaching Hindi as the first language at the primary level, using audio tapes in 450 schools in Hoshangabad district of Madhya Pradesh. The project had been in operation since 1986-87. The schools had been provided with radio-cum-cassette recorders and players. A set of 77 audio cassettes, containing 308

programmes, were supplied to the schools in three phases, starting with children of class I. During this period, which was the terminal year of the project, a survey on the operation and management of the project was carried out. The response of both children and their teachers was found encouraging.

ii) Educational Films

Two educational films screening programmes were organised from 14 to 17 December, 1990 and 15 to 18 March, 1991 in Kavaratti (Lakshadweep) and Shillong (Meghalaya) respectively, in collaboration with the

local educational authorities. Three thousand students and teachers participated in intensive viewing sessions. The objective was to promote and popularise the use of educational films as a source of enrichment materials in the teaching-learning process.

(iii) Educational Exhibitions

An exhibition on the activities of the NCERT was mounted in the National Science Exhibition for Children held from 23 to 28 February, 1990. The CIET organised two more similar exhibitions on different occasions.

(iv) Participation in International Conference

The CIET participated in the Third Regional Conference of World Council of Curriculum Instruction (WCCI) held at Amritsar, Punjab from 11 to 14 November, 1990 and presented a paper on 'Utilization of Educational Television: Some Basic Issues'.

Dissemination

The CIET continued dissemination of its materials on Educational Television, Educational Radio and Educational Films.

Besides these two issues of Educational Media

Newsletter promoted awareness about the latest developments and activities in educational technology.

Reports/Publications brought out by the CIET

- (i) *A Study on ETV Utilization in Orissa*
 - (ii) *Orientation Course in Media Research-A Report*
 - (iii) *A Study on Effects of Comic Television Serials on Children*
 - (iv) *A Manual on Mathematics Teaching Aids*
 - (v) *A Catalogue with Summaries of Audio Programmes*
 - (vi) *A Directory of the Institutes of Educational Media in India (draft)*
- This is based on information collected from SLETs, EP Cells, ITLs, AVRCs, EMRCs among others.
- (vii) *A Manual on Using Television in the Classroom (Hindi and English)*
 - (viii) *A Manual on Using Radio cum Cassette Recorder and Player in Classroom (Hindi and English)*

II

EDUCATIONAL TECHNOLOGY

1991-92

II**EDUCATIONAL TECHNOLOGY**

One of the significant programmes of the NCERT is to promote educational technology, particularly mass media, in the improvement and spread of education in the country and for the development of alternative systems of education. The functions of Central Institute of Educational Technology (CIET) include production of audio-visual educational materials in audio and video programmes, films, charts, tape slides and low cost aids; transmission of the ETV service for the children and teachers at the primary level in the Hindi belt; training of the staff of the SIETs and other media institutes, in audio and video production, technical operations and maintenance, and research and evaluation; orientation courses for the teacher educators of the DIETs, CTEs, IASEs, SCERTs, etc., in educational technology and low-cost teaching aids; research and evaluation of audio and video programmes and materials, feed-back and studying the impact of the target audience, consultancy in educational technology, distance education, setting up audio and video studios, systems design and selection of equipment; co-ordination with the MHRD in planning and designing ET schemes; and with the SIETs for programming, technical operations, research and administrative matters; and marketing and extension services for supply of CIET materials.

Research/Evaluation Activities

There has been a greater emphasis to test the materials and programmes, analyse their content and collect relevant evidence from the field with a view to bring about improvement in programme content, format and utilization. During 1991-92, the following studies were carried out:

Educational Television

The ETV programmes produced under the series on '*Tal Ki Chaupal*', '*Dhat Sawal*' and '*Azadi Ki Kahani*' were field tested. Feedback was given to the producers/script writers for further development of the series.

Content Analysis Studies: The content analysis of the ETV programmes for the children under the categories (i) Stories and (ii) Plant Life, and on teachers training, particularly in the series on Operation Blackboard, was done. Salient findings about the coverage of educational objectives in cognitive, attitudinal and psychomotor domains, repetition of content from one programme to another, repetition of instructional events in the same programmes, aids used, format of presentation etc., were reported and discussed.

Transmission Monitoring: The telecast of

the ETV service for the children in Hindi was monitored regularly using the Direct Reception Set. Significant change in scheduling and capsuling of the programmes were brought out as a result of observations made during monitoring.

Audience Profile: A field study was initiated in the three INSAT districts of Uttar Pradesh to prepare a profile of audiences (children at the primary level and the primary school teachers), the school and the environment. The report of the study is supported by still photographs.

Media Utilization: A study was taken up in Madhya Pradesh to find out the extent of utilization of the ETV service and factors affecting that.

Educational Radio

Feedback Studies: The series on 'Pita Ke Patra Putri Ke Naam' (Letters from Father to Daughter) by Pandit Jawaharlal Nehru were field tested. The response was found encouraging.

The audio programmes for the children with special needs were also field tested, and suitably modified keeping in view the reactions of the children and teachers. On the whole, the programmes have been found useful. A brief report of the feedback study has been prepared.

A prototype study was done on the programmes produced for the mentally handicapped children. The aim was to find out the extent of support which could be provided through picture cards to the audio programmes to enhance their comprehension and learning. The children could describe events/concepts better after listening to the programmes and looking at the pictures.

Major Findings — Hoshangabad Audio Cassette Project

The CIET replicated the project on teaching Hindi as the first Language at the Primary level using its

audio programmes under 'Bhasa Anand' in 450 schools in the Hoshangabad District of Madhya Pradesh. The project had been in operation during 1986-87 to 1990-91. A study of the operation and management of the project has been completed. Children liked programmes based on songs and simply-told stories. They were able to form mental images and describe the events after listening to the programmes. For better impact, it is, however, important to take care of management aspects such as selection of schools, maintenance and repair of sets, supply of electricity, replacement of battery cells, training of teachers etc., at the beginning of the project.

Some salient recommendations from the report of the project are as follows.

- (i) Appropriate well designed and produced audio programmes are easily understood by the children. They can be used by the teacher as an integral part of the class room transaction. However, the teacher has to be trained in the methods of using the audio programmes as learning material.
- (ii) Though the electronic media is looked upon as a panacea for the ills of the single or two-teacher schools, the very purpose of using the media for education will be lost if the schools are ill equipped to keep the equipment safely.
- (iii) Trained mechanics may be made available to tour a given education district periodically to take care of the minor problems.
- (iv) Learning aspects
 - Children can easily learn songs with simple tunes. They like to sing the songs themselves. Hence, the content should also be simple.
 - Children like stories particularly those which have a lot of sound effects.
 - Simple, direct, clear communications appeal to the children.
 - A well produced programme inspires the child to develop the characters involved in it, thus helping the child to develop descriptive skills.

- An attempt should be made in the production of the programmes to overcome the passivity of the medium by introducing questions and encouragement to respond to sing along to make imitative actions, etc.
- Dry narration should strictly be avoided and interactive methods of production should be adopted in audio programmes for young children.

Slides

Under the series 'Land, People and Monuments of India', a workshop for primary school teachers and teacher educators of DIETs was organized to evaluate the sets of slides of Rajasthan and Himachal Pradesh. The main objective of the Workshop was to improve upon the materials before these were given to DIETs to serve as training materials.

Development of Educational Materials

The CIET continued to develop educational software comprising educational television programmes, audio programmes, films, charts and low cost aids.

Educational Television Production

The main thrust of the ETV programmes was for the rural primary school children of 5-8 and 9-11 age groups, and teachers' training. Ninety-five ETV programmes comprising 70 programmes for children and teachers, 5 fillers and 20 continuity programmes were prepared for telecast through INSAT. Twelve ETV programmes were dubbed in Oriya and Gujarati.

The CIET had intensive consultations with the State educational authorities and the Doordarshan to revise telecast timings to improve utilization at the school level. To enhance the understanding and appeal, the programmes are presented in a capsule which has continuity, and new materials like activities, riddles, puzzles, and questions are added to make the programmes

more participative. This approach was tested, and 20 continuity programmes were produced during the year.

Some important series of ETV programmes produced during the year 1991-92 are:

Education of the Disabled: For the International Year of the Mentally Handicapped Children, the CIET produced 9 ETV programmes to support orientation and motivation of parents/teachers. These programmes were dubbed in Oriya and Gujarati and telecast in five language regions, namely, Hindi, Marathi, Gujarati, Telugu and Oriya.

Education for Women's Equality: The programmes on 'Chuna Hai Aakash', 'Subha Ho Rahi Hai' and 'Bhavishya Ki Dastak' were produced and telecast on National Network and Channel II of Delhi Doordarshan.

Programmes for the NCERT: 'Safar Jarl Hai', a programme on the NCERT, was telecast on the occasion of the thirtieth anniversary of the NCERT.

Two programmes 'Shram Hi Pooja' and 'Yeh Bhi Sambhav Hai' were produced for the Department of Educational Psychology, Counselling and Guidance, NCERT.

Nine programmes were produced for improvement of Science and Mathematics Education. Nine language dubbings of the series on Operation Blackboard have been done.

The Committee on the Educational Programme, Planning and Costing identified ten topics on Vocational Education for production by outside producers on a turnkey basis.

ETV Capsuling: The CIET prepared nearly 700 capsule tapes, each of 45 minutes. These were sent to the Doordarshan Kendra, Delhi for telecast via satellite for the Hindi region in the morning educational television service.

ETV Curriculum: An effort was made to evolve an ETV curriculum, based on the past experience, which should provide a definite direction, focus and continuity in the ETV

programmes leading to substantial learning achievements in children. Four curriculum groups in the subject areas of Science, Mathematics, Languages and Social Studies with participation of the concerned Departments of the NIE have identified themes and series.

Audio Programmes: A total of 85 audio programmes were produced. This included 15 programmes on 'Equality of Sexes' for the age groups 6-10 and 11-14 years, 25 programmes for the children with special needs, 20 programmes for understanding of Hindi and literature for the children of class VII of Navodaya Vidyalayas, and 15 audio programmes for English Language teaching on the request from the CBSE. A set of 10 programmes were produced on great freedom fighters and social reformers. There has been a greater emphasis to field test the programmes during the period to improve upon the programmes, and also to understand the target audience more thoroughly.

Educational Films: Four 16 mm colour films were completed. These are: (i) 'Hari Seekh Gaya' on Non-formal Education — Part II, (ii) 'Badalti Hawayen' (Changing Winds) — on Rajasthan, (iii) 'Kodagu' i.e., the Valiant Ones, and (iv) 'The Land of the Brave', under the series on "Land and People" bringing the total to 12 films under this series.

With these, the CIET productions have gone to 65 educational films in various subject areas. The work on development of another four films, namely, Coramandal Coast Part-I, Aravalli Ranges Part-II, Ladakh, and Garhwal is in progress.

Educational Charts: The work on preparation of Science charts on Biology for the new syllabus for classes XI and XII was initiated. The CIET has already developed 80 charts in Biology, Physics and Geography at the secondary school level.

Acquisition of Materials: Two video serials, each of 13 episodes, one on 'Bharat Ki Chaap' and the other on 'Race to Save the Planet' were acquired for the Central Film Library.

Print Materials: Two manuals, one on use of television and the other on use of radio-cum-cassette recorder and player in the classroom, were printed both in English and Hindi for the user teachers at the primary level. About 2 lakh copies of the manuals have been sent to about 40 State nodal agencies for distribution among the user schools in their respective states.

A manual on low-cost Mathematics teaching aids for the primary classes was brought out. This would be particularly useful for the DIETs.

Training Programmes

The CIET organized ten orientation/training courses. The emphasis during the year remained on training in operation and maintenance of equipment for video/audio production. Training courses in educational technology were also organized in audio production and script writing and orientation of teacher educators of DIETs and other institutions.

Dissemination

The CIET continued dissemination of its materials to various institutions/organizations, including the constituent units of the NCERT. Under the Bilateral Cultural Exchange Programmes, various educational technology materials were sent to Mauritius, Trinidad and Indonesia.

Extension Activities

The CIET organized the following extension programmes during the year 1991-92.

(i) Educational Exhibitions

The CIET materials were exhibited in the Science Exhibition at:

- a) The Teen Murti House, New Delhi from 14 to 30 November 1991;
- b) Jawaharlal Nehru Science Exhibition in Cochin from 7 to 15 November, 1991;
- c) Status of Education for Commonwealth

Parliamentarians in the Parliament House Annexe from 18 to 30 September 1991;

- d) Exhibitions organized at the NIE Campus on the occasion of thirtieth anniversary of the NCERT from 18 to 25 September 1991

(iv) Bal Utsav

In the Bal Utsav organized on 1 June 1991 on the occasion of the thirtieth anniversary of the NCERT, children had an opportunity to play with low-cost toys, watch a play and puppet show, work with arts and crafts, folk music/dance and observe the production of TV and audio programmes.

(iii) Video Festival

The third Children's Educational Video Festival was organized at the CIET, NCERT from 8 to 11 October, 1991. This festival provided a forum for producers, researchers and writers in ETV of the CIET and the six SIETs where they could view, interact and share experiences and discuss ways and means of improving the quality of video production.

(iv) The CIET organized a workshop on Low-Cost Teaching Aids at Aizawl (Mizoram) from 3 to 27 February, 1992 at the request of the State Education Department.

(v) Circulation of Educational Films

The Central Film Library (CFL) of the CIET has the stock of more than 8,000 titles with membership of 4,365 among the schools/educational institutions. About 1,400 titles of the educational films of the CFL were issued to the member institutes during 1991-92.

(vi) Consultancy/Lectures

The Faculty of the CIET provided consultancy (including lectures) to other institutions at their invitation. The CIET also provided support to the

six SIETs by participating in their meetings, coordinating their activities, training of their personnel, and identification, selection and supply of equipment.

(vii) The CIET covered/hosted 133 functions/meetings of other departments of the NCERT/MHRD in its premises during 1991-92 and provided facilities/manpower for the purpose.

Awards

The CIET won the following awards for its productions.

- (i) The film 'Valiant Ones' under the series 'The Land and the People' won the best Anthropology and Ethnographic Film award by the National Film Award Jury for the non-feature for 1991.
- (ii) The video film 'Mian Gunsum Aur Bato Rani' for the children on Language Teaching won the first prize in the Third Children's Educational Video Festival held in the CIET for the year 1990-91.
- (iii) The CIET sent its video entries in three International Video Competitions held in Canada, Germany and Italy. The video film 'Tai Ki Chaupal' was selected by the National Committee of the Prix. Jeunesse International, Canada, for exhibition in the Video Bar 1992.

Reports/Publications brought out by the CIET

The following reports/publications were brought out during the year 1991-92.

- (i) Report of the Research Study on Use of ETV in Andhra Pradesh
- (ii) Report of the Audio Cassette Project, Hoshangabad (M.P.) — A Case Study of the Management Problems
- (iii) Report on Feed-back on Audio Programmes for the Children with Special Needs, particularly the Educable Mentally Handicapped Children

1991-92

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| <ul style="list-style-type: none"> (iv) Report on the Content Analysis of ETV Programmes for the Children based on (i) Stories and (ii) Environment — Plant Life. (v) A Set of Reports on Monitoring of the Telecast of the ETV Service during 1990-91 (vi) A Set of Reports on Field Testing of ETV programmes during 1990-91 (vii) Manual on Guidelines for Teachers for Using Television in the Classroom (English and Hindi) (viii) Manual on Guidelines for Teachers for Using | <ul style="list-style-type: none"> Radio-cum-Cassette Player in the Classroom (English and Hindi) (ix) Manual on Preparation of Mathematics Low Cost Teaching Aids for Primary Schools (x) Report on the Orientation Course for the Teacher Educators in Educational Technology from August 5 to 30 1991 (xi) Manual on Management of the SIETs <p>The details of workshops, meetings, seminars, training programmes and orientation etc. are given in Table</p> |
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Table

Workshops, Orientation/Training Programmes, Meetings Organized by the CIET during 1991-1992

S No.	Title of the Programme	Duration	Venue	No. of Participants
1	Orientation Course in Educational Technology for University Teachers/SCERTs/Training Colleges/IASEs/CTEs	5 to 30 August, 1991	CIET, New Delhi	15
2	Technical Training Course in Operation and Maintenance of Camera Chain (KCK-40) Cameras supplied by BEL Bangalore	26 to 30 August, 1991	Ahmedabad	10
3	Technical Training course in Operation and Maintenance of KCM-125 Camera	19 to 31 August, 1991	Bangalore	3
4.	Technical Training course on Video Equipment supplied by CCEK (High Band VCR, Ikagami/ENG Camera/Character Generator and ADO).	30 September to 9 October, 1991	Delhi	10
5	Technical Training Course in Operation and Maintenance of TV Studio Equipment supplied by BEL-Bangalore including Telecine	11 to 23 November, 1991	Bangalore	10
6	Fifth Orientation Course for the Lecturers in Educational Technology of the DIETs	11 to 20 November, 1991	CIET, New Delhi	19
7	Technical Training course in Operation and Maintenance of Vision Mixer supplied by BEL.	2 to 11 December, 1991	Bangalore	10
8	Technical Training course in Operation and Maintenance of Audio Equipment supplied by Meltron	2 to 10 December, 1991	Bombay	10

<i>S No</i>	<i>Title of the Programme</i>	<i>Duration</i>	<i>Venue</i>	<i>No. of Participants</i>
9	Integrated Training Course for Script writing and Production of audio/Radio Programmes for Educational Purposes	3 to 28 February, 1992	CIET, New Delhi	15
10	Technical Training Course on Video Equipment Supplied by OCEL Vadodra (Low Band Portable/Edit VCR and Sony/Ikagami Camera)	3 to 13 March, 1992	Delhi	13
11	Workshop on Validation and Extension of Procedures for Organisation of Distance Education Programmes—Response Sheet Assignments	18 to 19 July, 1991	RCE, Ajmer	28
12	Working Group Meetings on Development of Science Charts in accordance with the New Syllabus for Classes XI and XII	15 May, 1991 August 29, 1991 9 September, 1991 25 to 26 and 31 March 1992	CIET, New Delhi	5-8
13.	Sixteenth CIET-SIETs Coordination Committee Meeting	25 to 26 July, 1991	CIET, New Delhi	45
14	Working Group Meetings to Develop Audio Programmes in Mathematics	1 August, 1991	CIET, New Delhi	12
15	Meeting to develop Audio Curriculum for SIETs	3 to 4 December, 1991	CIET, New Delhi	25
16	Workshop on Identification and Selection of Video and Audio Programmes on Teacher Training for supply to DIETs	17 to 29 February, 1992	CIET, New Delhi	
17	Seventeenth CIET-SIET Coordination Committee Meeting	27 to 28 February, 1992	CIET, New Delhi	32
18	Workshop on Evaluation of Slides on Rajasthan and Himachal Pradesh under the series on Land, People and Monuments	3 to 5 March, 1992	RCE, Ajmer	14
19.	Workshop on Updating of ETV Programme Briefs	10 to 13 March, 1992	CIET, New Delhi	30

III

EDUCATIONAL TECHNOLOGY

1992-93

One of the significant programmes of the NCERT is to promote educational technology, particularly mass media, for improvement and spread of education in the country and for the development of alternative systems of education. As a premier institute in educational technology, the Central Institute of Educational Technology (CIET), NCERT is mainly concerned with development of video and audio programmes, 16mm films, charts and low-cost materials, training of personnel in ET, media production and technical operations, conducting evaluative research, documentation and dissemination of information and materials, and consultancy. The Institute has also the responsibility of feeding the daily morning educational television service through INSAT at the Primary level in Hindi and coordinating the activities of the six SIETs in setting up their facilities and programme production activities in respective regional languages. The CIET, inter alia, develops programmes which support the training activities of the Departments of the National Institute of Education (NIE).

During the year 1992-93, the major thrust of activities of the CIET remained on preparation of theme-based programmes to support learning of Environmental Sciences and Social Studies at the Primary level.

Under its training activities, the CIET organised courses on educational technology and technical

operations for its own staff as also for SIETs staff with assistance from outside experts as well as in-house faculty. To upgrade skills in programme production, two new training programmes on innovative production techniques and on development and manipulation of puppets for effective ETV programming were introduced.

During 1992-93, the CIET made efforts to operationalise the studios in the SIETs at Patna and Bhubaneswar. The coordination with all the six SIETs in general is now more intense and on a regular basis.

Research and Evaluation

The Central Institute of Educational Technology carried out evaluative research studies to test comprehensibility of the programmes, analyse their content, study their utilisation in the schools and factors affecting utilisation and monitor the telecast of the ETV service. Precise information on research studies carried out during the period is as follows:

- (i) A survey study was conducted in Puri and Dhenkanal Districts of Orissa to find out the extent of utilisation of ETV service for the children and teachers at the Primary level and factors affecting utilisation. Data were collected from 235 TV user teachers in 235 schools spread over nine Blocks.

- (ii) Two series of television programmes entitled *Dhai Sawal* on Science and *Tai Ki Chaupal* on community action by children were field-tested with the children of rural Primary schools. It was found that children liked the programmes. There was a statistically significant gain in the knowledge of the children about the concepts/content of the programmes in both the series.
- (iii) In the context of new programme series, a script on 'holes' was field-tested, and modified before taking up for production.
- (iv) A series of four audio programmes on teaching of Hindi to non-Hindi-speaking students of Classes VI and VII of Jawahar Navodaya Vidyalayas along with the test materials were evaluated in Orissa. It was observed that programmes with pauses helped children pronounce the words, identify correct words and use verbs more appropriately. It was also observed that programmes based on straight reading from the text were not found useful in improving understanding of the children about meaning of the words and had, therefore, limited use in their present format.
- (v) The CIET has produced more than 215 ETV programmes for teacher education covering 15 areas. Content analysis of the programmes revealed that there were some important gap areas in which more programmes needed to be produced. These include use of newspapers for teaching Languages, Sciences and Social Sciences, preparation of self-learning materials, use of community resources, learner-centred approach, cooperative learning, media utilisation, etc.
- (vi) The CIET feeds a daily transmission of the ETV service in Hindi for the rural children and teachers at the Primary level from 10.30 a.m. to 11.15 a.m. The SIETs at Lucknow and Patna

contribute to this service. Significant changes in scheduling, capsuling characterisation, and presentation of the programmes were affected as a result of monthly monitoring of daily transmission.

Development of Educational Materials

The CIET continued its activity of developing educational software comprising educational television programmes, audio programmes, films, charts and low-cost aids, both for its own purpose and to support media requirements of other Departments of the NIE.

(i) Educational Television Programmes

During 1992-93, the CIET produced 122 ETV programmes for children and teachers at the Primary level. The Institute put greater emphasis on development of theme-based programmes in series which include *Story of Man*, *Dhai Sawal* (a magazine of physical and biological sciences), low-cost toys and Mathematics and Special Education. With a view to support the training needs of the NIE Departments, the Committee on the Educational Programme, Planning and Costing identified 19 topics for ETV production by outside producers on turn-key basis. Of these, 12 programmes were produced and approved by the Committee. These included programmes on Electronics and Handicrafts, Social Studies and Humanities, and Pre-Primary and Primary Education.

(ii) ETV Scripts

Sixty-five ETV scripts were developed by outside talent to supplement in-house production of scripts. In addition, a video script on Environmental Education at the Primary level has been finalised in consultation with the Uttarakhand Seva Nidhi, an NGO working for promotion of Environmental Education among the school children in Almorah District of Uttar Pradesh.

(iii) *ETV Capsuling and Transmission*

The CIET prepared 243 capsule tapes, each of 45 minutes' duration containing 608 ETV programmes, including 186 repeats. These were sent to the Doordarshan for telecast via satellite in the Hindi region for the morning Educational Television Service at the Primary level.

(iv) *Theme-based Programmes*

In the context of the Minimum Levels of Learning, a series of themes were selected in Environmental Sciences and Social Sciences to evolve a package of programmes around each theme. The idea is to clarify not only the concepts to the children but also to demonstrate the relationship of the concepts to their day-to-day life situation, to broaden their horizon and stimulate their curiosity and inquisitiveness. Based on field experience, four major themes, namely, Forces, Food and Fuel, Communication, and Growth and Decay were identified and ETV briefs were prepared. Necessary modifications in the scripts were incorporated as a result of interaction with the children in the rural areas taking examples from their real life situations. Similar scripts will be prepared for Sciences, Mathematics and Languages. Ultimately the materials produced would be packaged together into units to serve as rich resource materials for the teachers.

(v) *Educational Audio Programmes*

Of 21 audio programmes produced during 1992-93, a series of eight programmes is meant for the Primary school teachers on understanding children and helping them to learn. Under the series on tribal stories and folk music emphasising the value of protection of environment, two programmes were produced for the children at the Secondary level. In all, twelve programmes are proposed to be produced in this series.

Under the project on development of audio tape-cum-slide programmes on Medieval Monuments of India as a curriculum support at the Upper Primary level, four research-based scripts were developed. Ten programmes on Vocational Guidance were produced as support material for training of career teachers for the Department of Educational Psychology, Counselling and Guidance. A programme on genesis of textile design for Class VI students was produced for the Department of Vocationalisation of Education of the NCERT. The CIET also produced 23 programmes for the Central Board of Secondary Education (CBSE) to support teaching of English Language at Class IX level with the help of the scripts provided by the Board.

(vi) *Educational Films*

Two films, namely, Aravalli Ranges-II and Ranges of Nilgiri under the series 'Land and People of India' were finalised bringing the total to 12 films under this series. Two films, namely, Green Gold — Gujarat and Proud Sentinel — Maharashtra, under the same series were dubbed from English to Hindi. A Hindi version of Gharwal Ranges is being prepared. The CIET has produced 67 educational films in various subject areas. Two video programmes on Early Childhood Education were produced. Shooting of another video programme on 'Non-Formal Education-III' has been completed.

(vii) *Educational Charts*

Eighteen charts on Biology according to the new syllabus for Classes XI and XII were prepared. The CIET has already developed 80 charts on Physics, Biology and Geography at the Secondary level. Sixty-four charts were sold during the year.

(viii) *Syllabus in Educational Technology*

Keeping in view the demand for a standard syllabus in Educational Technology for Elementary Teacher Education, a three-day

workshop for development of the syllabus was organised from 10 to 12 August 1992. The syllabus was subsequently reviewed by another group of experts in a two-day workshop from 8 to 9 December 1992, and finalised as an optional paper for the two-year pre-service Primary Teachers Training Course offered by DIETs. Course writers were assigned the job of developing print materials after orienting them about the content coverage and format.

Demonstration of Distance Learning Interactive Technologies (Classroom 2000+ Project)

The Indo-US Sub-Commission Project Classroom 2000+ will demonstrate distance learning interactive technologies comprising live television lessons interfaced with telephone and computer for two-way communication. The Doordarshan and the Computer Management Corporation (CMC) are the collaborating agencies with the CIET as the nodal agency to execute the project. A team of seven members consisting of three members from the CIET, one each from the Doordarshan and CMC, and two teachers visited Kentucky Educational Network, Lexington, USA from 7 to 14 February 1993 for orientation about the operation and technical aspects of the project.

Training Programmes

Of the 12 orientation/training programmes organised by the CIET during 1992-93, training programmes on creative ideas and innovative television programme production techniques, and on development and manipulation of puppets for effective ETV programmes were significant. However, the emphasis remained on training of the SIETs/CIET personnel in operations and maintenance of equipments for video/audio production. In addition, orientation courses in Educational Technology for teacher educators of DIETs and other teacher training institutes were organised.

Dissemination

□ The Electronics Trade and Technology Development

Corporation (ET & T) continued as the marketing agent for the video and audio programmes of the CIET. About 73 titles of video programmes were sold and distributed through ET & T.

- Ten titles of audio programmes in the series on 'Freedom Movement in India', 'Letters from Father to Daughter', 'Nursery Rhymes', etc. were made available to ET & T for marketing.
- About 350 ETV programmes on different themes were transferred from U-matic to U-matic, and U-matic to VHS for direct supply to various educational institutes.
- A package of 33 video programmes on teacher training and nine audio programmes was prepared in consultation with the Department of Teacher Education and Special Education, NCERT and some teacher educators for distribution to the DIETs to support their pre-service and in-service training programmes. One hundred and fifty sets of the package were prepared and distributed to DIETs.
- Under the bilateral cultural exchange programmes, CIET educational material was sent to various countries
 - (a) A set of *Bhasha Anand* with 77 audio cassettes on language learning was sent to the People's Republic of China.
 - (b) A set of video programmes on Primary Science Kit and Mathematics Kit was sent to the South African Broadcasting Corporation, Television Centre, Johannesburg, South Africa.
 - (c) A video programme on 'What is Science' was sent to the China Association for Science and Technology (CAST), Beijing.
- The CIET organised the Fourth Children's Educational Video Festival at SIET, Hyderabad from 25 to 27 August 1992. The main objective was to bring producers, writers and researchers in ETV of the CIET and the SIETs to a common forum where they could view, interact and share experiences, and discuss ways and means of improving the quality of video production.

- ❑ The video film *Dhai Sawal*, produced by the CIET, New Delhi, was awarded the second prize by the Jury for its humour, active puppetry, simple concepts which together serve as a model for making educational television programmes with minimum resources
- ❑ Four students of the Government S.V Polytechnic, Bhopal were imparted training in ETV Programme Production as a part of their attachment with the CIET for four months
- ❑ The CIET organised a training-cum-workshop on development of low-cost teaching aids at Primary and Middle school level at Mussoorie from 7 to 11 September 1992, for the benefit of the teachers of the Tibetan Schools at the request of the Central Tibetan Schools Administration, MHRD
- ❑ 1254 titles of educational films of the Central Film Library (CFL) in the CIET were issued to the member educational institutes on loan for screening. Seven new educational institutes have enrolled themselves as members of the CFL, bringing the total membership to 4371. The CFL has a stock of more than 8500 titles
- ❑ Several members of the faculty of the CIET

delivered lectures and provided consultancy in their areas of proficiency to other educational institutions at their invitation

- ❑ The CIET provided support to the six SIETs in setting up studios; identification, selection, supply and installation of equipment, training of personnel; coordinating their activities, and participating in their meetings. During the year under report the setting up of ETV studios was completed in Patna and Bhubaneswar. The studios are in the final stages for commissioning.

Publications

- (i) Report of the Study on Utilisation of ETV Service for the Children and the Teachers at the Primary Level in Puri and Dhenkanal District of Orissa
- (ii) A Picture Book on Birds for Children
- (iii) Integrated Catalogue of SIETs-CIET Educational Video Production for the year 1990-91 has been completed

6.8 The details of workshops, seminars, orientation/training programmes organised by the CIET during 1992-93 are given in Table

TABLE

**Workshops/Meetings/Seminars/Conferences/Training/Orientation
Programmes Organised by CIET during 1992-93**

S. No	Title of the Programme	Dates	Venue	No. of Participants
1	Stores and Inventory Control Training Course	29 June to 10 July 1992	NITE, Bombay	2
2	Orientation-cum Workshop on Development and Manipulation of Puppets for Effective ETV Programmes	3 to 8 August 1992	CIET, New Delhi	15
3	Maintenance and Alignment Course on Studio Lighting Electronic Dimmer System	5 to 7 August 1992	CIET, New Delhi	17
4	Orientation-cum-Workshop on Creative Ideas and Innovative Programme Production Techniques for ETV	17 to 19 September 1992	CIET, New Delhi	16
5	Maintenance and Alignment Course on Low-Band ENG System, U-matic VCR, Camera, Edit Control, etc	21 to 29 September 1992	CGEL, Ahmedabad	15

1992-93

S No	Title of the Programme	Dates	Venue	No of Participants
6	Maintenance and Alignment Course on KCM-125 Studio Camera supplied by BEL, Bangalore	14 to 19 December 1992	BEL, Bangalore	2
7	Orientation Course for the Lecturers in Educational Technology of the DIETs	11 to 12 January 1993	CIET, New Delhi	15
8	Maintenance and Alignment Course on KCK-40 Studio Camera	15 to 20 February 1993	CIET, New Delhi	16
9	Maintenance and Alignment Course for four-wire Intercom System supplied by BEL, Bangalore	22 to 24 February 1993	CIET, New Delhi	15
10	Orientation Course in Educational Technology for Teacher Educators of IASEs/CTEs/ Departments of Education of Universities	19 February to 12 March 1993	CIET, New Delhi	16
11	Maintenance and Alignment Course on High Band U-Matic VCR Character Generator, Digital Video Effect supplied by GCEL, Baroda	20 March to 3 April 1993	CIET, New Delhi	7
12	Training in Basic ETV Production and Technical Operations	22 March to 17 April 1993	CIET, New Delhi	20
13	Working Group Meeting on Preparation of ETV Briefs on Themes in Science	2 to 5 June 1992	CIET, New Delhi	28
14	Working Group Meetings on Development of Science Charts Based on the New Syllabus for Classes XI and XII, and their Evaluation	13 Meetings from December 1992 to March 1993	CIET, New Delhi	8-12
15.	18th CIET-SIETs Coordination Committee Meeting	30 to 31 July 1992	CIET, New Delhi	35
16	Workshop on Development of Syllabus in Educational Technology for Elementary Teacher Education	10 to 12 August 1992	CIET, New Delhi	22
17	Workshop on Development of Low-Cost Teaching Aids for the Tibetan Schools	7 to 11 September 1992	Mussorie Uttar Pradesh	30
18	Workshop on Understanding Children and Helping them to Learn for Primary School Teachers	14 to 16 September 1992	CIET, New Delhi	14
19	Planning Group Meeting on the Development of Four Tape Slide Programmes on the Medieval Monuments of India	21 December 1992	Archaeological Survey of India, New Delhi	10
20	Workshop for Review of Syllabus in Educational Technology for Elementary Teacher Education	8 to 9 December 1993	CIET, New Delhi	25
21	19th CIET-SIETs Coordination Committee Meeting	28 to 29 December 1993	CIET, New Delhi	35
22	Meeting of Course Writers for Finalising the Content Area and Formats of Text Materials in ET for Elementary Teacher Education	18 to 19 January 1993	CIET, New Delhi	12

1992-93

S No	Title of the Programme	Dates	Venue	No of Participants
23	Planning Group Meeting on the Programme 'Selection of Tribal Stories and Folk Music Emphasising the Value of Environment'	23 February 1993	CIET, New Delhi	—
24	Workshop on Development of Guidelines for the Lesson Writers for Distance Education	1 to 5 February 1993	CIET, New Delhi	12
25	Workshop-cum-Orientaton of SIET Personnel on Development of Procedures and Methods for Documentation of AV Materials	9 to 18 February 1993	CIET, New Delhi	6
26	Working Group Meeting for Development of Training Materials in ET for Teacher Educators at the Secondary Level	29 to 31 March 1993	CIET, New Delhi	11
27	Workshop on Finalisation of Content of a Book on Readings in Educational Technology	31 March to 1 April 1993	CIET, New Delhi	8

IV

EDUCATIONAL TECHNOLOGY

1993-94

One of the significant programmes of the NCERT is to promote educational technology, particularly the mass media, for the improvement and spread of education in the country and for the development of alternative systems of education. As a premier institute in educational technology, the Central Institute of Educational Technology (CIET) of the NCERT is mainly concerned with development of video and audio programmes, 16mm films and charts and low-cost materials; training of personnel in educational technology, media production and technical operations; conducting evaluative research, documentation and dissemination of information and materials, and consultancy in application and development of educational technology. The Institute has also the responsibility of feeding the daily morning educational television service through INSAT at the Primary level in Hindi and coordinating the activities of the six SIETs in setting up their facilities and programme production activities in their respective regional languages. The ETV programmes produced by the CIET, and the SIETs are received in eleven States and in the Union Territory of Chandigarh, covering five regional languages. The CIET *inter-alia*, develops programmes which support the training activities of the Departments of the National Institute of Education (NIE).

During the year 1993-94, the major thrust of

activities of the CIET remained on preparation of theme-based ETV programmes to support learning of minimum levels of competencies at the Primary level, particularly in Environment Science and Arithmetic.

Anticipating the need for Environment Education materials, the emphasis in production of audio programmes during the year was on common plants of the country and tribal folk stories and music on environment.

Under its training activities, the CIET organised courses on technical operations and maintenance of equipment for its own staff as also for the SIETs staff with assistance from outside experts as well as the in-house faculty.

Research and Evaluation

The CIET carried out evaluative research studies to determine the impact of broadcasts on the learning of the children, test the comprehensibility of the programmes, analyse their content and monitor the telecast of the ETV service. Precise information on research studies carried out during the period is as follows.

As a follow-up to the NIEPA study, the CIET undertook a major research study to assess the impact of educational broadcasts at the Primary level. The

study was commissioned to an outside state marketing research organisation. The sample comprised 3600 children of Class II and Class IV and 200 teachers of 120 Primary schools spread over three States, viz, Andhra Pradesh, Orissa and Uttar Pradesh. The study which was entitled "Impact Study of Educational Broadcasts" involved comparison of students' performance on a battery of tests including achievement tests, curiosity and language skills between user schools and non-user schools. The report indicates that children in TV schools are better off than those in the non-TV schools on language skills, environmental awareness, visual representation and curiosity. However, there was variation in results among different States; Andhra Pradesh doing better than Orissa. Students' performance on different variables was uneven in Uttar Pradesh.

The CIET feeds a daily transmission of the ETV service in Hindi for rural children and teachers at the Primary level from 10.30 a.m. to 11.15 a.m. The SIETs at Lucknow and Patna contribute to this service. Significant changes in the scheduling, structuring and presentation of the programmes were effected as a result of monitoring of daily transmission and monthly evaluation and responses from children through letters.

The CIET has produced a number of ETV programmes on Environmental Science, and Health and Hygiene. Content analysis of the programmes identified the gap areas in each of these two subject areas in which more programmes need to be produced. The analysis was followed by a workshop to determine further topics of ETV programmes in health and hygiene to form a complete package in this area.

A study was conducted to evaluate the 16mm films produced by the CIET on "Land and People of India". Out of ten films produced in the series, six films were evaluated with the help of 16 Geography teachers and 30 students from two KVS schools of Delhi. The findings have shown that both teachers and students liked the films. They, however, suggested that other aids like maps, charts, animation etc., should be included in the films to clarify the concepts.

The multidisciplinary approach in the films was appreciated.

Demonstration of Distance Learning Interactive Technologies (Classroom 2000+ Project)

The CIET executed the Project Classroom 2000+ under the auspices of the Indo-US Sub-Commission on Education and Culture with effect from May 1993. The Project demonstrated interface of live television lessons with computer-linked key-pad response system and phone-in facility for distance learning of Mathematics and Physics at the Higher Secondary stage in an interactive mode. Sixty-five students, spread over seven locations in the country, actively participated in the project. The TV lessons were also available on the national network. The Computer Maintenance Corporation, the Doordarshan, the Kendriya Vidyalaya Sangathan and the Kentucky Educational Network, USA collaborated in this project.

The project was evaluated by the All India Association for Educational Technology. The second evaluative study was conducted by the CIET. The studies indicated that the lessons were well received by the students, teachers and educators. Non-participating students reported that they also benefited from the lessons. The technology system worked well, opening new possibilities of using advance technologies for distance education both for teacher training and school education.

Development of Educational Materials

The CIET continued with its activity of developing educational software comprising educational television programmes, audio programmes, films, charts and low-cost aids for its own purpose, and to support the media requirements of other Departments of the NIE and other educational institutes of the country. The Institute remained actively involved in the process of planning and identifying appropriate areas for media intervention in the programmes of the NIE Departments.

Educational Television Programmes

During 1993-94, the CIET produced 217 ETV

1993-94

programmes for children and teachers at the primary level. These included 51 programmes compiled from other sources, 53 continuity programmes, and 21 fillers. The emphasis continued on development of theme based programmes in a *series mode*. Some interesting series produced during the year are as under

States of India : Under the series, the State of Himachal Pradesh was covered extensively and four programmes, namely (i) Apples of Himachal Pradesh, (ii) Rearing of Sheep and Wool Industry of Himachal Pradesh, (iii) Rasin and Terpentine Industry of Himachal Pradesh, and (iv) Lavi Fair of Himachal Pradesh were produced. Besides, seven fillers, based on the folk songs and folk dance of Himachal Pradesh, were also completed.

There are five ETV programmes on Rajasthan, these being (i) Desert Gold, (ii) The Eternal Sands, (iii) The Story of the Camel, (iv) Camel Tattoo, and (v) Desert Fair. The programme "Desert Fair" was produced during 1993-94.

ETV programmes on Gujarat, Kerala and Maharashtra have also been produced. A programme on Ladakh, entitled "The New Teacher in Mangoo" was also completed during 1993-94.

Science Under Science programmes, a new series about production of thermal electricity, "Lalu Ne Bijalighar Dekha", was taken up. For younger children, three programmes under the series "2½ Sawal" were produced explaining

- (i) Why the complexion of the skin differs among human beings;
- (ii) How air reacts to heat; and
- (iii) How we hear and how we drink water with a straw

Another important series on Astronomy, entitled, "Dish Bindu" was initiated. A new quiz programme "Akkar Bakkar" was started. Two programmes in the series comprising interesting questions on Science, Sports, Language and Social Science were completed.

Innovative Educational Toys Four programmes under this series were produced with the active involvement of the National Institute of Design, Ahmedabad.

Health and Hygiene : Twelve programmes on Yoga and four programmes under the series "Safai Chand" in which a character, obsessed with personal hygiene, reminds children to wash hands before eating and keep the surroundings clean were produced.

For the last two years, emphasis on series-mode production has resulted in producing rich collection of programmes on Birds, Animals, Environment and States of India, beside programmes on Science, Health and Hygiene and Geography.

With a view to support the training needs of the NIE Departments, the Committee on the Educational Programmes, Planning and Costing identified 19 topics for ETV production by outside producers on turnkey basis. During 1993-94, 11 films were produced and approved by the Committee. Of these, five programmes are on vocational education on the theme of electronics. A Population Education Programme and three programmes on the Planet Earth have been completed. In addition, programmes on school readiness, career guidance and child development have been produced for teachers' training. Under the Contemporary Poets series, a programme on Nagarjun has been completed.

ETV Scripts

Forty-eight ETV scripts, including 26 scripts commissioned to outside talents, were developed. In addition, 6 video scripts on Environment Education at the Primary level highlighting the components and importance of the eco-system were finalised. Four scripts on Science (on different aspects of Energy), 4 scripts on communication (newspapers, signs and symbols, telephone and radio), 6 scripts on Environment, 3 scripts on Fairs and Festivals, 2 scripts on Aquatic Life and 4 quiz scripts were completed.

Educational Audio Programmes

One hundred four audio programmes were produced during 1993-94. These include a series of 10 programmes on tribal stories and folk music emphasising the value of the protection of environment. Under another series on common plants in our country, 10 programmes highlighting the medicinal and nutritional values of trees and fruits were produced.

One cassette containing two programmes entitled "Bachpan", was produced for middle level students under Value Education. Three programmes on community singing underlying the values of national consciousness were produced for the Department of Extension and Field Services of the NCERT. Three programmes on Vocational guidance were produced as a support material for training of career teachers for the Department of Educational Psychology, Counselling and Guidance. A total of 10 programmes in the series are now available covering interpersonal relationship between teachers and students, resolving frustrations among adolescents, hotel management and job opportunities in the paramedical fields.

Twenty-five programmes containing listening comprehension tests in five different languages were produced for the Government of Singapore for their Primary School Learning Examination level. Thirty-two programmes were produced for the Shri Lal Bahadur Shastri Rashtriya Vidyapeeth, New Delhi containing Shlokas from the Upanishadas by Sanskrit scholars, with a translation in Hindi. Eighteen programmes were produced for the Central Board of Secondary Education to support teaching of English language at Class X level using the scripts provided by the Board. Earlier the CIET had produced 20 programmes to support the teaching of English at Class IX level. Three programmes were produced for the National Open School for developing Language skills in modern Hindi at Class IX level.

1. Educational Films

Editing for two new films, namely, 'Vibrant Ranges' and 'Aravali Ranges — Part III' under the series 'Land and People of India' was completed. The CIET has already produced 12 films in this series. In addition, dubbing in Hindi of two films, namely, 'The Valiant Ones' and 'Land of the Brave' under this series was done.

Educational Charts

The work of development of a set of 20 charts in Biology with the required colour scheme for the new syllabus for Classes XI and XII was completed. The charts are ready for printing. Eighty charts on Physics, Biology and Geography at the Secondary level were developed earlier.

Development of User's Guide

A package of 33 video programmes on teachers' training and 9 audio programmes was prepared last year and distributed among 150 DIETs to support their pre-service and in-service training programmes. Encouraged by the success of utilization of these programmes, the package was enlarged by the addition of thirty more video programmes on teachers' training. A User's Guide for the two sets of video programmes has been prepared in collaboration with the Institute of Education, D A University, Indore. The User's Guides are in the final stages of editing.

Book of Readings in Media and ETV

The blueprint of the book consisting of a detailed chapter scheme, content details, guidelines for writers, exemplar materials, etc., was finalised. Various chapters have been assigned to identified writers/experts.

Training Programmes

The CIET organised eleven training/orientation programmes during the year 1993-94. The emphasis continued on training of the CIET/SIETs personnel in operations and maintenance of equipment for video and audio production. Another significant area in training was computerised media documentation and design of software for the documentation staff of the CIET. This course was organised in collaboration with the Development and Educational Communication Unit, ISRO, Ahmedabad. The CIET also organised a training course at the Mauritius College of the Air, Mauritius, for their staff in studio-based production and technical operations.

Extension and Dissemination

The Fifth Children's Video Festival was organised by the CIET at the SIET, Lucknow, with the objective to bring ETV producers, writers and researchers of the CIET and the six SIETs to a common forum where they would view programmes, interact and share experiences and discuss ways and means of improving the quality of video production. The theme of the festival was Birds and Animals. The video film on hippopotamus produced by the CIET was awarded the second prize.

As a follow up to the consultancy to the Mauritius College of the Air (MCA), Mauritius, the CIET deputed a three-member team to MCA for imparting a 3-week training to their staff in studio-based ETV production and technical operations, from 28 February to 18 March 1994. Four studio-based productions were completed as a part of the training. Two officers of the MCA were also given a three-week orientation in Technical Operations and Programme Production as part of their attachment with the CIET.

Five students of the Government S V Polytechnic, Bhopal, were imparted training in ETV programme production as a part of their attachment with the CIET for 18 weeks.

One thousand seven titles of 16mm films were issued on loan to the member institutes from the Central Film Library and two film shows were organised.

Under Cultural Exchange Programmes and on request from different institutions, 80 titles of ETV programmes were sent to Mauritius, Germany, China, USA, Israel and UNESCO.

During the year, the CIET received 13 prominent visitors and delegates, including delegates from Maldives, Sri Lanka, Bangladesh and Mauritius.

The Electronics Trade and Technology Development Corporation (ET&T) continued as the marketing agents for the video and audio programmes of the CIET. Several titles of video programmes were sold and distributed through them, providing a revenue in CIET accounts as royalty.

About 1000 ETV programmes were transferred from U-matic to U-matic, and U-matic to VHS for direct supply to various educational institutes/individuals.

The CIET sent to the Doordarshan 290 programme capsules for transmission in the INSAT education service, called Tarang; 127 programme capsules for

transmission in the Enrichment Channel; and 8 capsules containing 30 programmes for weekly transmission in the primary channel for the children's programmes in the afternoon hours. This is in addition to the bi-monthly transmission of ETV programmes in the children's programmes in the evening hours.

The revised package of ETV programmes on teachers' training developed by the CIET in support of SOPT was sent to four RCEs, the SCERT, Delhi, and the Department of Teacher Education of the NCERT for use and for sending feedback on the programmes.

A combined catalogue of video and audio programmes produced by the CIET was brought out. The revised catalogue comprising the synopsis of each programme was also prepared and sent to press.

Publications

- (i) Evaluation of the Classroom 2000+ Project
- (ii) Content Analysis of ETV Programmes on 'Health and Hygiene' and 'Environment Science'
- (iii) Analysis of the ETV Viewers, Mail
- (iv) Evaluation of the CIET 16mm films under the Land and People Series
- (v) Catalogue of the Video and Audio Programmes.
- (vi) Four Film Catalogues of the Central Film Library, one each on Physics, Chemistry, Biology, Education and Psychology
- (vii) Picture Books on 'Birds and Animals' (Under Print).
- (viii) Two manuals on Mathematics at the Primary and Middle and High School Level. (Under Print)
- (ix) User's Guide for ETV programmes on Teacher (Under Print)
- (x) Charts on Geography, Physics and Biology Series 2 and 3 (To be Printed)

The details of the workshops, seminars, orientation/training programmes organised by the CIET during 1993-94 are given in Table

1993-94

TABLE

Workshops/Meetings/Seminars/Conferences/Training/Orientation Programmes
Organised by the CIET during 1993-94

S No	Title of the Programme	Date	Venue	No of Participants
1.	Identification of Units in Mathematics for ETV Production	13 to 14 May 1993	NCERT, New Delhi	13
2	CIET-SIETs Coordination Committee Meeting (20th Meeting)	24 to 25 June 1993	NCERT, New Delhi	35
3	Working Group Meetings on Biology Charts	28 July and 8 August 1993	NCERT, New Delhi	2
4	Identification of Topics and Development of 10 Audio Programme Briefs on Common Plants of Our Country	18 to 20 August 1993	NCERT, New Delhi	15
5	Editing and Finalisation of Hindi Instructional Materials for the Certificate and Diploma Programme In Guidance and Counselling Through Distance Education Mode	12 to 27 September 1993	NCERT, New Delhi	7
6.	Editing and Finalisation of Hindi Instructional Materials for the Certificate and Diploma Programme In Guidance and Counselling Through Distance Education Mode	20 to 29 October 1993	NCERT, New Delhi	6
7	Finalisation of the Programme Briefs and Pilot Scripts for Production of ETV Programmes in Mathematics	23 to 27 November 1993	NCERT, New Delhi	15
8	Content Validation and Development of Programme Briefs of 10 Audio Scripts on Tribal Stories and Folk Music Highlighting the Environmental Values	23 to 24 November 1993	NCERT, New Delhi	12
9	CIET-SIET Coordination Committee Meeting (21st Meeting)	20 to 21 December 1993	NCERT, New Delhi	34
10	Development of User's Guide for Effective use of ETV Programmes in the Training of Teachers by the DIETs	21 to 22 December 1993	NCERT, New Delhi	3
11	Four-week Training in Basic TV Production and Technical Operation	27 March to 17 April 1993	NCERT, New Delhi	21
12	Orientation of the Deputy Director, Mauritius College of Air, Mauritius	3 weeks in February 1993	NCERT, New Delhi	1
13	Orientation of the students of the Government Polytechnic in Videography	10 May to 10 September 1993	NCERT, New Delhi	5
14	Training Course on TV Scene Lighting	1 to 11 September 1993	NCERT, New Delhi	11

1993-94

<i>S No</i>	<i>Title of the Programme</i>	<i>Date</i>	<i>Venue</i>	<i>No of Participants</i>
15	Training/Orientation Programmes of Two Officers of the Mauritius College of Air in TV/Radio Production and Technical Operations	4 to 30 September 1993	NCERT, New Delhi	2
16	Maintenance and Alignment Course on KCM-125 Studio Camera	1 to 16 October 1993	NCERT, New Delhi	8
17	Training Course on Sound Recording	1 to 11 December 1993	NCERT, New Delhi	10
18	Maintenance and Alignment Course on CD-680 Vision Mixer	16 to 21 January 1994	NCERT, New Delhi	9
19	Training in Computerised Media Documentation	21 to 24 February 1994	NCERT, New Delhi	6
20	Training in Studio Based Television Production and Studio Technical Operation	28 February to 18 March 1994	NCERT, New Delhi	42
21	Operation and Maintenance Training Course on Character Generator and Video Effects Generator	31 March to 6 April 1994	NCERT, New Delhi	17

V

EDUCATIONAL TECHNOLOGY

1994-95

V

Educational Technology

A major area of work of the NCERT is to promote educational technology, particularly the mass media, for improvement and spread of education in the country and for development of alternative systems of education. As a premier institute in educational technology, the Central Institute of Educational Technology (CIET) of the NCERT is mainly concerned with development of video and audio programmes, 16 mm films and low-cost materials, training of personnel in educational technology, media production and technical operations, conducting evaluative research, documentation and dissemination of information and materials and consultancy in application and development of educational technology. The Institute has also the responsibility of feeding the daily morning educational television (ETV) service through INSAT at the Primary level in Hindi and coordinating the activities of the six State Institutes of Educational Technology (SIETs) in setting up their facilities and programme production activities in their respective regional languages. The ETV programmes, produced by the CIET and the SIETs, are received in eleven States and the Union Territories of Chandigarh and Andaman and Nicobar Islands, covering five regional languages.

The morning ETV service in Hindi at the Primary level, received in seven States and Union Territories of Chandigarh

As a premier institute in educational technology, the Central Institute of Educational Technology (CIET), NCERT is mainly concerned with development of video and audio programmes, 16 mm films and low-cost materials, training of personnel in educational technology, media production and technical operations, conducting evaluative research, documentation and dissemination of information and materials and consultancy in application and development of educational technology.



A novel activity during the year was a training-cum-production workshop programme for development of television spots on prevention and control of AIDS with the active involvement of producers, script writers and artists.

and Andaman and Nicobar Islands will shortly be followed by the School Television (STV) programme for the Middle and the Secondary classes. Already there is a daily television educational service for Primary to Secondary level in the Hindi belt. For the first time, the audio programmes produced by the CIET are being used by ten selected stations of the Akashvani in their educational broadcasts. A Memorandum of Understanding (MoU) to this effect was signed between the NCERT and the Akashvani. The CIET also develops programmes which support the training activities of the Departments of the National Institute of Education (NIE).

During the year 1994-95 the major thrust of activities of the CIET continued on preparation of theme based ETV and audio programmes to support Minimum Levels of Learning requirement at the Primary Stage, particularly in Environmental Science and Arithmetic.

Under its training activities, the CIET organised courses on technical operations and maintenance of hardware and production of video programmes and writing of scripts. A novel activity during the year was a training-cum-production workshop programme for development of television spots on prevention and control of AIDS with the active involvement of producers, script writers and artists. 13 television spots on prevention and the control of HIV/AIDS were completed. Several workshops were organised to develop training inputs for DIETs in educational technology and media utilisation.

Research and Evaluation

The CIET feeds a daily transmission of the ETV service in Hindi titled "TARANG" for children and teachers at the Primary stage, particularly for the rural areas, from 10.15 a.m. to 11.00 a.m. The SIETs at Lucknow and Patna contribute to this service. In order to bring about continuous improvement in the service, the following activities were conducted during the period.



The daily transmission was monitored to observe quality of programmes, quality of capsuling, continuity and linkages among the programmes in a capsule, and extent of repetition of programmes etc.

At the end of each month, a monthly report was prepared for in-house circulation and discussion

The feed-back received from the viewers through letters was content analyzed. During the period six reports, based on content analyses of more than 4000 letters of the viewers, were prepared for in-house discussion and use. The children wrote letters not only to send their feed-back on programmes but also as a means to express themselves as well. In a number of letters they sent paintings, drawings, poems, stories, riddles, jokes etc , composed by them. They also asked questions mainly to understand the environment around them.

Four new ETV programmes on study of pre-historic humans, health and quiz programmes produced during the period were field tested. The findings were shared and discussed with programme producers.

Significant changes in scheduling, structuring and presentation of the programmes were effected as a result of the evaluative effort.

The CIET constituted a ten-member Committee of content and media experts to intensively review its own ETV programmes. The Committee reviewed 31 ETV programmes as well as continuity programmes and made several recommendations. Guidelines were also provided for the benefit of production and technical staff for improving the quality of production.

Project on Teaching of Mathematics at the Primary Level through Interactive Distance Mode



After the success of the Classroom 2000+ Project during 1993-94, the CIET has planned another Indo-US Sub-

The objective of this innovative experiment in teacher training is to reach out to 900 Primary Teachers and 60 DIETs faculty mainly for receiving simultaneous training for 7 days through the use of interactive technologies.

Commission Project on training of DIETs faculty and Primary Teachers for teaching of Mathematics at the Primary stage through Interactive Distance Mode. The project will involve participation of 30 DIETs in the Northern States of the country and Primary school teachers of Districts in which DIETs are located. The objective of this innovative experiment in teacher training is to reach out to 900 Primary Teachers and 60 DIETs faculty members for receiving simultaneous training for 7 days through the use of advance interactive technologies. As preparatory steps, difficult concepts have been identified and scripts for producing ETV programmes have also been finalised.

Development of Educational Materials

The CIET continued its activity of developing educational software comprising educational television programmes, audio programmes, 16 mm films and low-cost aids for its own purpose and to support the media requirements of the Departments of the National Institute of Education (NIE) and other educational institutes in the country.

Educational Television Programmes

During the year 1994-95 the CIET produced 94 new ETV programmes for children and teachers at the Primary stage. This is in addition to 52 continuity and link programmes to provide linkages and transition among different programmes in the capsules for daily transmission. The emphasis of ETV programmes continued on production of theme based programmes in a series mode to support learning of Minimum Levels of Competencies, particularly in Environmental Science and Arithmetic. Learning language through stories and poems, creativity and numeracy remained the major thrust areas during the period.

ETV Production by Outside Agencies

With a view to support the training needs of NIE



Departments, the Committee on the Educational Programmes, Planning and Costing has approved proposals for production of ETV programmes by outside producers on a turn-key basis During the year eight ETV programmes in this category were produced Of these, three programmes were on Vocational Education, two on Vocational Guidance, two on Social Studies and one on Environmental Education as detailed below -

Vocational Education	Oscilloscope, Dangers of Electricity, Integrated Circuit
Vocational Guidance	Nai Raham Nikhar
Social Studies	Hari Shankar Parsai, Kedar Nath Aggarwal
Environmental Education	Nature Walk

More than 47 video programmes have so far been produced by the CIET through the involvement of outside producers for various constituent units of the NCERT

The following programmes are at various stages of production

- ❖ A series of three programmes on National Integration including one on Indian Constitution
- ❖ Multi-grade Teaching
- ❖ Infant Stimulations
- ❖ The Mountains
- ❖ The Living Earth

ETV Scripts

83 ETV Scripts, including 58 scripts commissioned to outside talents, were developed These include six semi-structured scripts for interviewing eminent personalities by the children A new series on Bal Geet based on poems by noted persons for children was also scripted

More than 47 video programmes have so far been produced by the CIET through the involvement of outside producers for the constituent units of the NCERT.



Educational Audio Programmes

37 audio programmes produced during the year included a series of 10 programmes on tribal music and folk tales emphasising the value of protection of environment and harmonious relationship between human beings and nature

Under another series of programmes on Environmental Education, eight programme briefs were developed. Of these, five audio programmes were produced during 1994-95 Three more programmes are under production

Eight programmes were produced on Social Studies for the children of classes III and IV The series covers topics on civil services like Railways, Police, Panchayats, Post and Telegraph etc

Four tape slide-cum-audio programmes were produced on the medieval monuments of India for children of Upper Primary stage.

Eight teacher's training audio programmes on inculcating self-discovery and creativity among the children of Upper Primary stage were produced in collaboration with the Department of Educational Psychology, Counselling and Guidance of the NCERT Two teacher's training audio programmes were produced for the Department of Social Sciences and Humanities of the NCERT on appreciation of aesthetics of literacy text for children at the Middle school stage

Educational Films

Four new 16 mm films viz., Valley of Flowers, Vibrant Ranges, Ooty-I and Ooty-II under the series 'Land and People of India' were completed during the year Hindi version of the Film on Valley of Flowers was also completed. 16 films in this series have already been produced A film on Tribes of Garhwal in the above mentioned series was taken up for production during 1994-95

Two films, one on Techniques of Photography and the other on the Mughal Gardens, have been completed



Production of "Princess and the Moon", a 16 mm film on perspectives and different view points of the world around us, has been undertaken

Development of Users' Guide

The package of 33 video programmes on teacher's training prepared earlier by the CIET was reviewed by a Committee. The package was enlarged by addition of a few more programmes to comprise 40 ETV programmes to support the programme of Special Orientation of Primary Teachers (SOPT). A User's Guide in English for effective use of the package was finalised. The Hindi version of the Guide is nearing completion.

Book of Readings in Educational Technology and Media

The manuscripts of different chapters were reviewed and discussed among the authors and experts in a workshop. The modified versions of the manuscripts will be reviewed and finalised.

Multi-Media Kit on Media Utilisation

Effective utilisation of media programmes is perhaps the weakest link in the implementation of the Educational Technology Scheme of the Government of India under which colour television sets and radio-cum-cassette players have been provided to a large number of Primary schools in the country. The CIET and the SIETs have developed additional materials for orientation of user teachers in effective utilisation of the media programmes and operation of the hardware. These materials were reviewed in a workshop. A detailed outline of a comprehensive multi-media package for user teacher's orientation was formulated. The work on preparation of the package, comprising of video programmes, audio programmes and print materials would be taken up next year.

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Book on Aesthetics and Technical Aspects of Sound Recording

The manuscript of the book is being prepared

Materials for Training on Sound Recording

Good sound is an important component of a quality video production. A set of materials comprising audio tapes on aesthetics of music, dialogue recording, recording of music etc, is being prepared for use in training courses on sound recording.

Workshops/Conferences/Meetings/Seminars/ Orientation Programmes

Another significant area for training was production of video and audio programmes for education and writing of scripts.

During the year 1994-95 twenty four workshops were organised, mainly for improving production and technical skills, identification of themes and topics of educational media software, programme briefs and scripts and developing training inputs for the DIETs in educational technology and media utilisation. A production workshop was organised in collaboration with the Max Mueller Bhawan and the Consortium of Educational Communication in two phases for development of television spots on HIV/AIDS prevention and control.

The CIET organised six training/orientation programmes during the year. The emphasis was on development of the staff of the CIET and SIETs for operation and maintenance of equipments used for video and audio productions. Another significant area for training was production of video and audio programmes for education and writing of scripts.

Dissemination of CIET Materials

Audio

For the first time, the audio programmes produced by the CIET have found an outlet through the ten selected



stations of Akashvani, namely, Allahabad, Bhopal, Delhi, Indore, Jaipur, Jodhpur, Lucknow, Patna, Rohtak and Shimla as a part of their educational broadcasts. The weekly broadcast of the CIET programmes for 15 minutes commenced in March, 1995. A Memorandum of Understanding (MoU) was signed to this effect between the NCERT and the Akashvani. Among others, the Primary schools in different States that have been provided two-in-one tape recorders for use in the classrooms under the ET Scheme of the Government of India will be specially benefited by these programmes. The capsules of its programme for broadcast during the year 1995-96 have already been prepared.

Video

The CIET regularly sent capsules of its ETV programmes to Doordarshan for telecast on the Primary and the Metro Channels in the afternoon hours. This is in addition to the regular ETV service titled "Tarang", telecast six days a week in the morning hours and received in seven Hindi States and the Union Territory of Chandigarh. The CIET programmes are now telecast in Andaman and Nicobar Islands also. In all 460 programme capsules, containing 1094 ETV programmes, were sent to the Doordarshan for transmission. The Hindi belt now also receives the school television programmes for classes VI/VII and IX produced by the Doordarshan.

In all 460 programme capsules, containing 1094 ETV programmes, were sent to the Doordarshan for transmission.

The Electronics Trade and Developments Corporation (ET&T) continued as the marketing agent for the video programs of the CIET.

About 553 ETV programmes were transferred from U-Matic to U-Matic, and U-Matic to VHS for direct supply to various educational institutes/educationists.

Extension Activities.

The Sixth Children's Educational Video Festival was organised by the CIET at the SIET, Pune, from 8 to 10



*More than 40 ETV
programmes were
identified to form the
video component of
the Special
Orientation of
Primary Teachers
(SOPT) Programme.*

March 1995 to bring the ETV producers, writers and researchers of the CIET and the SIETs to a common forum where they could review programmes, interact and share experiences and discuss ways and means of improving the quality of educational programmes. The themes of the festival were Health and Community Participation, Animation and Mathematics. The CIET won second prize on the programme titled "Toba Kachi Ki Chaal" and third prize for its programme titled "Job". In the panorama section, the CIET's programme "Kiran Keh Rahi Hai" was widely appreciated.

The CIET participated in two international festivals of educational video programmes viz, Prix Jeunesse International, Germany and 21st International Educational Programme Contest, Japan, by sending three entries. The CIET entry entitled "Kumbha Ki Kahani" (Story of Pot) in the Prix Festival was selected and recommended for the video bar.

The CIET also participated in the video competition organised by the XI World Congress of the International League of Societies for Personnels with Mental Handicap in November, 1994. Its programme "Shuru Se Shuru Vad" bagged third prize.


More than 40 ETV programmes were identified to form the video component of the Special Orientation of Primary Teachers (SOPT) Programme. The package includes programmes on Pedagogy, Creative Thinking, Mathematics, Arts etc. Eight sets of the selected programmes were sent to four RCEs, the SCERT, Delhi and the Department of Teacher Education and Special Education, NCERT for sending feed back on the package.

150 sets of the video package of the SOPT Programme are being prepared for supply to the DIETs in the Hindi speaking region. Regional languages dubbing has also been started by the SIETs for distribution in the INSAT States.

A User's Guide to accompany video package of the SOPT programme has been completed and distributed among the concerned agencies.

1279 titles of 16 mm films were issued on loan to 57 member institutes from the Central Film Library of The CIET.






Six students of the Government S V Polytechnic, Bhopal were imparted training in ETV programmes production as a part of their attachment with the CIET for 18 weeks from July to November 1994.

Five students of the PG Diploma in Videography from the DAB Vishwavidyalaya, Indore, underwent practical training in the CIET in ETV production for 4 weeks during February-March 1995.

Reports and other Materials brought out during 1994-95

- ❖ Guide for Teacher Educators and Resource Persons on Use of ETV programmes (SOPT Video Package) for Training of Primary Teachers (English version printed) (Hindi version typed)
- ❖ Impact of Educational Telecast, A Study among Rural Primary Schools in Andhra Pradesh, Uttar Pradesh and Orissa (Printed)
- ❖ Report of the Committee set up by CIET to Review its ETV programmes (Xeroxed)
- ❖ Resource Book on Primary Mathematics (Under Print)
- ❖ Manual on Mathematics Aids (Under Print)
- ❖ Picture Book on Birds (Under Print)

The details of workshops, seminars, orientation/training programmes organised by the CIET during 1994-95 are given in Table 30 on page 224 

Table

**Workshops/Meetings/Seminars/Conferences/Training/Orientation Programmes
organised by CIET, New Delhi during 1994-95**

<i>S. No</i>	<i>Title of the Programme</i>	<i>Dates</i>	<i>Venue</i>	<i>No. of Participants</i>
1	Finalisation of ETV Scripts on Mathematics for Primary School Children	10 to 19 July 1994	NCERT New Delhi	8
2	CIET-SIFTs Co-ordination Committee Meeting (22nd Meeting)	21 to 22 July 1994	NCERT New Delhi	32
3	Finalisation of Inputs for the Training of ET Faculties of DIETs/IASEs	1 to 5 August 1994	RCE Mysore	12
4	Development of Core-Curriculum based Multi-Media Package on the Core-Curriculum based on MLL	8 to 12 August 1994	RCE Mysore	12
5 *	Training in Basic ETV Production and Technical Operations	16 August to 3 September	SIET Patna	29
6.	Workshop on Developing Instructional Design for ETV Programmes in Collaboration with CEC with the help of a NHK Expert from Japan	13 to 17 September 1994	NCERT New Delhi	23
7	Identification of Topics for Preparation of Topics for Audio Programmes on Social Studies for Classes III and IV	19 to 20 September 1994	NCERT New Delhi	10
8	Training in Principles of Colour Television and Applications of Measuring Instruments	12 to 21 September 1994	NCERT New Delhi	8
9	Production of ETV Spots on HIV/AIDS (in collaboration with Max Muller Bhawan, New Delhi (Phase I)	1 to 7 September 1994	Max Muller Bhawan, New Delhi	15
10	Production of ETV Spots on HIV/AIDS (Phase II)	29 September to 28 October 1994	NCERT	26
11	Development of Audio Programme Briefs on Environmental Education	5 to 6 October 1994	NCERT New Delhi	10



<i>S. No</i>	<i>Title of the Programme</i>	<i>Dates</i>	<i>Venue</i>	<i>No of Participants</i>
12	Training in Studio Equipment and Interfacing	21 to 26 November 1994	NCERT New Delhu	8
13	Training in Audio Programme Production and Script Writing	7 to 16 December 1994	NCERT New Delhu	11
11	Selection and Finalisation of MLL Competencies for Teaching of Mathematical Concepts at the Primary Level through Interactive Mode	16 December 1994	NCERT New Delhu	18
15	Development of Users' Guide (Hindi) for ETV Package for Use in SOPT Phase-I	2 to 6 January 1995	NCERT New Delhu	8
16	CIET-SII Ts Co-ordination Committee Meeting ('3rd meeting)	30 to 31 January 1995	NCERT New Delhu	39
17	Working Group for Intensive Review of ETV Programmes of the CIET	22 to 24 February 1995	NCERT New Delhu	10
18	Training in ETV Script-Writing for the SIETs	5 to 25 January 1995	NCERT New Delhu	14
19	Development of Content Briefs for ETV Package on Mathematics for Indo-US Sub Commission Project on Interactive Distance Teaching	14 to 22 January 1995	NCERT New Delhu	12
20	Development of User's Guide (Hindi) for ETV Package to be used in SOPT Phase II	13 to 17 February 1995	NCERT New Delhu	8
21.	Sixth Children's Educational Video Festival	8 to 10 March 1995	SIET Pune	46
22	Experts' Review Workshop for Book of Readings in ET and Media	13 to 15 March 1995	NCERT New Delhu	15
23	Development of Content Outline Delivery etc for Orientation in ET for Lecturers of DIETs	14 to 17 March 1995	RCE New Delhu	8



<i>S. No.</i>	<i>Title of the Programme</i>	<i>Dates</i>	<i>Venue</i>	<i>No of Participants</i>
24	Developing Seven Month Thematic and Sequential Transmission Schedule in Collaboration with the SIET, UP	21 to 24 March 1995	NCERT New Delhi	6
25	Development of Content Outline Delivery etc. for Orientation Course in ET for Teacher Educators of IASES/CTEs	28 March to 1 April 1995	NCERT New Delhi	11
26	Workshop for Finalisation of the Multi-media Kit for User Teachers' Training	27 to 30 March 1995	NCERT New Delhi	10
27	Development of Self-instructional Modules for PG Diploma Course in Guidance and Counselling through Distance Mode	30 March to 8 April 1995	NCERT New Delhi	15



VI

EDUCATIONAL TECHNOLOGY

1995-96

Educational Technology

A major area of work of the NCERT is to promote educational technology, particularly the mass media, for improvement and spread of education in the country and for development of an alternative system of education. As a premier institute in educational technology, the Central Institute of Educational Technology (CIET) of the NCERT is mainly concerned with development of video and audio programmes, 16mm films and low-cost materials, training of personnel in educational technology, media planning, script writing, programme production and technical operations, conducting evaluation research, documentation and dissemination of information and materials and consultancy in application and development of educational technology. The Institute has also the responsibility of feeding the daily morning educational television (ETV) service through INSAT at the primary level in Hindi and coordinating the activities of the six State Institutes of Educational Technology (SIETs) in setting up their facilities and programme production activities in their respective regional languages. The ETV programmes, produced by the CIET and the SIETs, are received in eleven states and UTs of Chandigarh and Andaman and Nicobar Islands, covering five regional languages.

The morning ETV service in Hindi at the primary level is received in ten states including UTs of Chandigarh and Andaman and Nicobar Islands. Already there is a daily television educational service for primary to secondary level in the Hindi belt. The audio programmes produced by the CIET are being used by ten selected stations of the Akashvani in their educational broadcasts. A Memorandum of Understanding (MOU) to this effect was signed between the NCERT and the Akashvani. The CIET also develops programmes which support the training and extension activities of the other constituents of NCERT.

During the year 1995-96 the major thrust of activities of the CIET remained on preparation of theme-based ETV

and audio programmes to support MLLs requirement at the primary stage, particularly curriculum-oriented educational software based on MLL competencies.

Under its training activities, the CIET organised courses on technical operations and maintenance of hardware and production of video programmes and writing of scripts. Several workshops were organised to plan audio programme packages on themes selected from ancient and medieval history of India besides a series of programmes on teaching of Hindi and inculcation of positive values in school children.

A novel activity during the year was using 'tele-conferencing mode' of distance education for in-service training of about a thousand primary school teachers of Karnataka, in collaboration with ISRO and IGNOU, utilising their satellite uplink and studio facilities.

The CIET feeds a daily transmission of the ETV service in Hindi titled 'Tarang' for children and teachers at the primary stage, particularly for the rural areas, from 10.15 a.m. to 11.00 a.m. The SIETs at Lucknow and Patna contribute to this service. In order to bring about continuous improvement in the service, the following activities were conducted. The daily transmission was monitored to observe quality of programmes, quality of capsuling, continuity and linkages among the programmes in a capsule, and extent of repetition of programmes, etc. At the end of each month, a monthly report was prepared for in-house circulation and discussion. The feedback received from the viewers through letters was analysed. Brief reports, based on content analyses of several thousand letters from viewers, were prepared for in-house discussion and use. Children wrote letters not only to send their feedback on programmes but also as a means to express themselves as well. In a number of letters they sent paintings, drawings, poems, stories, riddles, jokes, etc. composed by them. They also asked questions mainly to understand the environment around them. A special programme titled 'Patron ke Uttar' was designed in response to viewers' letters and telecast every month.

Research and Evaluation

Using Interactive Teleconferencing Technique

A special innovative project to provide in-service orientation to primary school teachers of Karnataka through interactive distance mode using teleconferencing technique, i.e. one-way video and two-way audio return channel through telephone or fax was designed and operationalised. The programme was conducted from 6 to 13 January 1996 in collaboration with ISRO and IGNOU using their satellite uplink facilities and TV studio. Relevant curricular concepts were identified and a series of 36 ETV programmes were produced in Kannada language for use as inserts in the teleconferencing sessions. Using this innovative technique, about 1000 primary school teachers and 60 DIETs faculty members from Karnataka were trained by experts lecturing from the studio on different aspects of pedagogy, knowledge of content and live demonstration of practical activities designed to develop MLL competencies and other teaching-learning skills in trainees. The project proved to be a thrilling photo-finish success and paved the way for further refinement and adoption of the interactive technique of in-service teacher training for a nation-wide application in different educational situations.

Educational Audio/Radio Programmes

Series Titles	No. of Audio Programmes
Bhasha Anand Series (Teaching Hindi as the first language for Class IV)	27
Bachpan Series (Programmes on value education for middle class school children)	6
Environmental Education	3
Programmes produced for DESSH, NCERT under PSLE scheme	20
Language Teaching Project	18
Arun Bharati for DESSH, NCERT	
Programme on Aesthetics and Critical Appreciation for DESSH, NCERT	1
Programme recorded on Bal Bharati textbook	8

Activities of developing educational software comprising educational television programmes, audio programmes, 16 mm films and low-cost aids for its own purpose and to support the media requirements of the Departments of the NIE and other educational institutes in the country continued.

Development of Educational Materials

During the year 1995-96, 93 new ETV programmes for children and teachers at the primary stage were produced. This is in addition to 52 continuity and link programmes to provide linkages and transitions among different programmes in the capsules for daily transmission. The emphasis of ETV programmes continued on production of theme-based programmes in a series mode to support learning of minimum levels of competencies, particularly in environmental studies and mathematics.

Educational Television Programmes

With a view to support the training needs of NIE Departments, the Committee on the Educational Programmes, Planning and Costing has approved six proposals for production of ETV programmes by outside producers on a turn-key basis. During the year, four ETV programmes in this category were produced and other two are at different stages of production. Of these, three programmes were on National Integration, two on the Planet Earth and one on the poet Shiv Mangal Singh Suman under the National Poets series.

ETV Production by Outside Agencies

The CIET and Six SIETs have received latest Betacom equipment to replace their obsolete 'U-matic' video equipment. The process of installation and operation trial is in progress.

Based on Experts' Working Group Meetings, a series of 12 ETV scripts was finalised. Programmes on these scripts are at various stages of production. Scripts written by outside professional scriptwriters were also taken up for production of ETV programmes.

ETV Scripts

Educational Films

English and Hindi versions of films namely Ranges of Nilgiris and Annamalai Parts I and II were completed. Censor certificates for exhibition and telecast of these films were also obtained. The work on films titled 'Vibrant Ranges' and 'Solar Eclipse' has been completed and laboratory work is in progress at Madras. The film on 'Tribes of Garhwal' is also nearing completion.

Dissemination of Materials Audio

In all 45 educational audio/radio programmes addressed to children in 3-7 year age-group were broadcast through 10 stations of Akashvani, namely, Allahabad, Bhopal, Delhi, Indore, Jaipur, Jodhpur, Lucknow, Patna, Rohtak and Shimla as a part of their educational broadcasts. There is also weekly broadcast of the CIET programmes for 10 minutes through ten Hindi Radio Stations of Akashvani under a Memorandum of Understanding (MoU) signed between the NCERT and the Akashvani. Among others, the primary schools in different states that have been provided two-in-one tape recorders for use in the classrooms under the ET scheme of the Government of India will be specially benefitted by these programmes.

Video

The CIET regularly send capsules of its ETV programmes to Doordarshan for telecast on the Primary and the Metro channels in the afternoon hours. This is in addition to the regular ETV service titled 'Tarang', telecast six days a week for 45 minutes in the morning hours and received in all Hindi-speaking states and UTs. Programme capsules (307) containing 872 ETV programmes were sent to the Doordarshan for transmission.

SIETs of Orissa, Andhra Pradesh, Gujarat and Maharashtra provided similar ETV telecast service in their respective regional languages. ETV programmes (317) were transferred from 3/4" to 3/4" or 3/4" to 1/2" format for different purposes. Hindi and English versions of selected video programmes to provide support to Special Orientation for Primary Teachers (SOPT) project were prepared. Regional language versions of these programmes are being prepared. Two thousand copies of *Mathematics Club Activities* were distributed to the DIETs, State Education Departments, SIETs, SCERTs, Departments of NIE and RIEs. The material included in

the document is based on 45 articles highlighting innovations in mathematics teaching at the primary school level. The matter culled from the newspaper *The Hindu*, was updated, edited and printed with the permission of the authors.

Assistance and expertise was provided in the organisation of the National Science Exhibition held at Teen Murti House in November 1995. The CIET participated in the International Film Festivals held at Tokyo, Chicago and Thiruvananthapuram, and sent a set of selected video/film programmes to each of the three competitions. One of CIET's programmes entered for special preview and discussion in the follow-up workshop at Colombo. Meetings of the Coordination Committee were organised to discuss and solve various problems of SIETs. This was followed by exchange of visits by CIET and SIETs faculty members, engineers and producers to provide specific assistance.

The RIE, Ajmer completed a study regarding 'Development of classification reasoning using computers'. The outcomes of the project inter alia included (i) development and validation of tasks for training and testing of reasoning abilities of students for computer programmes, and (ii) a User Manual.

Regional Level Inputs to Educational Technology

The RIE, Mysore conducted a script-writing workshop for DIETs faculty members and a few selected school teachers for preparing audio cassettes useful for transacting the primary school curriculum and enlisting audio support. About 300 audio cassettes in the area of language teaching, including skills such as listening, speaking, language usage and language comprehension, developed by the RIE are being used effectively in many primary schools where two-in-one tape recorder facility is available. The feedback from the schools was encouraging and MLL-based audio programmes in the area of language teaching for primary school teachers were produced in collaboration with DSERT, Bangalore at the request of the Government of Karnataka. The audio programmes were tried out on a sample of 2,068 children of Classes III and IV of 41 primary schools spread over eight districts of Karnataka.

Workshops/Meetings/Seminars/Conferences/Training/Orientation
Programmes organised by CIET during 1995-1996

S.No.	Title of the Programme	Date	Venue	No. of Participants
1.	Twenty-Fourth Meeting of CIET-SIETs Coordination Committee.	4 to 5 December 1995	CIET, New Delhi	40
2.	Special Training Course in ET, ETV Script-Writing and Production.	15 Feb., to 12 March 1996	CIET, New Delhi	16
3.	Workshop for Developing Guidelines for Radio/Audio Programmes on Ancient History of India.	12 to 14 Feb., 1996	CIET New Delhi	11
4.	Tele-conferencing Programme for Training of 850 Primary School Teachers of Karnataka.	7 to 13 January 1996	CIET, New Delhi	05
5.	Training Programme for ETV Production, Editing, Camera Work and Lighting for S.V. Government Polytechnic, Bhopal.	3 July to 15 Nov., 1995	CIET, New Delhi	07
6.	Workshop on 'Bhasha Anand' Teaching Hindi as first language for Class-IV.	12 to 13 Feb., 1996	CIET New Delhi	20
7.	Workshop for Developing Audio radio Programmes Briefs of Selected History of Class-VII.	5 to 8 September 1995	CIET New Delhi	22
8.	Workshop for coordination and Development of ETV Programmes.	5 to 7 June 1995	Patna (Bihar)	20
9.	Workshop for Coordination and Development of ETV Programmes.	25 to 27 March 1996	Lucknow	20
10.	Working Group Meeting.	7 to 9 August 1995	Delhi	08

VII

***EDUCATIONAL TECHNOLOGY
1996-97***

VII

EDUCATIONAL TECHNOLOGY

As a premier institute in educational technology, the Central Institute of Educational Technology (CIET), a constituent of the NCERT, is mainly concerned with development of video and audio programmes, 16 mm films and other learning materials, training of personnel in educational technology, media planning, script writing programme, production and technical operation. It is also concerned with conducting research in various aspects of media planning and production, documentation and dissemination of information and material and consultancy in applications and development of educational technology.

The CIET has the responsibility of feeding a daily satellite educational television service, entitled *Tarang*. This ETV service transmits programmes in Hindi at the primary level for students and teachers. While programmes produced at CIET and the State Institutes of Educational Technology (SIETs) at Lucknow and Patna are capsuled and transmitted on *Tarang*, the other SIETs at Ahmedabad, Bhubaneswar, Hyderabad and Pune look after similar telecasts in their respective regional languages. The ETV programmes are received in eleven states and UTs of Chandigarh and Andaman and Nicobar Islands. In order to enhance the reach of such ETV services in particular and educational technology in general across the length and breadth of the country, proposals to set up more SIETs during the Ninth Five Year Plan are under consideration at the MHRD level.

After signing the Memorandum of Understanding with the Akashvani, the CIET is

providing audio programmes to the Allahabad, Bhopal, Delhi, Indore, Jaipur, Jodhpur, Lucknow, Patna, Rohtak and Shimla Stations of Akashvani. This programme entitled *Umag*, is broadcast once every week.

Tarang on DD 3

The CIET will be providing video programmes



A still from ETV programme

for telecast on Channel 3 of Doordarshan. As a part of educational broadcast, the CIET and agencies like CEC and IGNOU are providing programmes for this broadcast. The proposed telecast will be for a duration of half an hour, all seven days a week, and will include various programmes for children of the age-group 9-11. Apart from this half-hour telecast, a series of programmes in Mathematics for students of Classes X and XII will be telecast. Areas in Mathematics found difficult by students are proposed to be presented by expert teachers in a tutorial format. This telecast is a three-month experiment in using television for direct teaching, and the CIET proposes to expand such transmissions to other classes and subjects too. The telecast is slated to commence soon.

Educational Television Programmes

During the year 1996-97, 83 ETV programmes, aimed at teachers and students of the primary stage, were produced. This is in

addition to 52 continuity and link programmes which are used with the capsules of *Tarang*. Scripts are being requisitioned on various areas of the curriculum from outside script writers. An in house script committee consisting of members with expertise in content, media and production aspect has been formed to help the script writers in finalisation of scripts. ETV programmes are largely aimed at supplementing the primary school curriculum and as such focus on helping children achieve the Minimum Levels of Learning (MLLs).

Some of the significant series of ETV programmes taken up for production are Environmental Education (cleanliness and orderliness) for children, multi-grade teaching and integration of women's issues in the curriculum for teachers of the primary stage. A series of nine programmes to be used during the pre-service primary teachers' training programme are being developed.

While the allotment of programmes for outside production on a turn-key basis has been discontinued, outside producers are encouraged to take up productions using all the facilities of the CIET. Two series of programmes on Story Telling and Art Education have been completed and series on Discoveries and Inventions is in the process of completion.

Educational Audio Programmes

Apart from the programmes produced for *Umang*, which is aimed at children in the age-group 3-6, the Educational Radio Division has taken up production of audio programmes for various target groups and themes. About 110 audio programmes were produced during the year 1996-97. Significant among the various series of programmes are a series for the educable mentally handicapped children, *Pracheen Bharat ka Itihaas* and *Madhya Yugeen Bharat Par Ek Drishti* for middle school children; *Har Din Ho Kitab Ka Din* for the National Book Trust, a series of 24 programmes to encourage Sanskrit learning in children for the Rashtriya Sanskrit Sansthan, and *Gyan Vigyan* for primary school children, are significant.

Educational Films

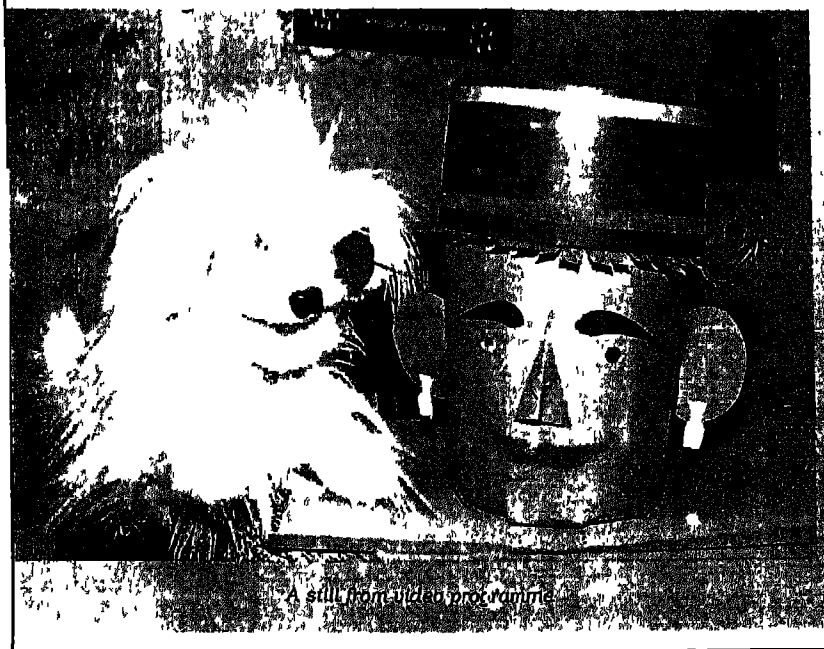
The Film and Photo Division of the CIET produces educational films in the 16 mm format. During 1996-97, the Division has completed 'Coronation of the Sun' and its Hindi version *Suraj Ki Tajposhi*, a film on the Solar Eclipse of October 1995, 'Vibrant Ranges' and its Hindi version *Samvedansheel Parvatmala* on the Aravalli ranges, 'Tribes of Garhwal' and its Hindi version *Garhwal Ki Jan-Jatujan*, 'Lutyen's Dream', 'Mughal Gardens' and 'Technique of Photography'. The films *Vu Bhoomi*, *Dev Bhoomi*, 'Coimbatore Plains' and 'Princess and the Moon' are at various stages of completion.

Marketing of Media Products

The CIET has an arrangement for the marketing of its products (audio and video programmes) with private agencies. During 1996-97, a number of video and audio titles were selected by the agencies for marketing.

Video Festival

The CIET organises a children's Video Festival annually. This festival aims at encouraging improvement of quality of production and exchange of programmes.



A still from video programme

Video programmes for teachers and children in the age-groups 5-8 and 9-11 were invited from six SIETs. During 1996-97, the CIET organised the Eighth Festival at Ahmedabad from 3 to 5 October 1996. Audio programmes were also included in the festival.

CIET Bags NHK Award

An educational television programme entitled *Ek. atan Aur* was nominated for the 23rd Japan Prize instituted by the NHK and got a special commendation award.

The programmes *Ghar* and *Kenchua* were awarded third prizes at the Eighth Children's Video Festival held at Ahmedabad in October 1996.

Programme Briefs

An exercise to prepare programme briefs pertaining to all areas of the curriculum at the primary stage (Classes I-V) has been completed. The document now provides programme briefs in Mathematics, Language, Environmental Studies, Art Education and Work Experience based on the Minimum Levels of Learning (MLLs). The exercise is proposed to be extended to encompass various other developmental and research activities leading to the development of a validated Media Curriculum.

been developed in the areas of Special Education (for Educable Mentally Handicapped), Teacher Education (Multi-grade Teaching and Integration of Women's Issues) and Environmental Education. Script testing and field testing of programmes have also been carried out.

Tele-conferencing Experiment

The innovative tele-conferencing mode of training of primary school teachers under the Special Orientation Programme for Primary Teachers (SOPT) involves a two-way audio and one-way video networking of training centres through satellite. Training of primary school teachers in 45 centres in Madhya Pradesh was taken up during August 1996, through this mode. A series of 13 short video programmes was developed. Besides telecast, evaluation of the programme was also undertaken. The evaluation reports of the tele-conferencing programme for the states of Karnataka and Madhya Pradesh were brought out.

New Technology Equipment

A training programme of personnel belonging to CIET and SIETs to familiarise them with the latest Betacam video cassette recorders and CCD cameras was organised. These systems were procured and installed at the CIET and the SIETs at the cost of Rs 1.3 crore. The CIET is also procuring new technology equipment including Graphics and Animation Station, Beta Recorders, Non-linear Editing Systems and Test and Measuring Equipment.

Training Programmes

The CIET also takes up training programmes for various producer and user groups in Educational Technology. An in-house training programme in scripting and production was held to orient the new faculty. A training programme on 'Use of Computers' for the ET faculty of DIETs in Madhya Pradesh was



ETV Training

Programme briefs, scripts and media programmes (both audio and video), have also

organised in collaboration with the Department of Education, Devi Ahilya Bai University.

Audio Reports
1996

at Indore. Training programmes 'Concepts and Applications of Educational Technology' for faculties of the University Departments of Education, Institutes of Advanced Studies in Education (IASEs), Colleges of Teacher Education (CTEs) and the District Institute of Education and Training (DIETs) were organised. Students from S.V. Government Polytechnic, Bhopal and the Department of Mass Communication, Devi Ahilya Bai University, Indore were attached to the CIET for training in various aspects of production. A training programme for the personnel of the ET Cell of the SCERT, Mizoram in scripting and production techniques was also organised.

Eight personnel from the CIET and SIETs were sent to Hong Kong for specialised training in the maintenance of ET systems. Two producers were sent for a workshop on Children's Television conducted jointly by the Doordarshan and the UNICEF during November 1996.

Regional Level Inputs in Educational Technology

The RIE, Mysore undertook production of audio programmes in Kannada and Tamil for use in Classes III and IV. The programmes include the core curriculum such as 'Protection of Environment', 'Removal of Social Barriers', 'Indian Cultural Heritage', etc. Five cassettes produced on these themes are being tried out in the primary schools of the Karnataka State.

At the request of Tamil Nadu and Pondicherry, the RIE, Mysore undertook development of competency-based audio programmes for teaching of Tamil in Classes III and IV. Fifty audio programmes and 17 poems in Tamil were recorded. The Institute assisted the Government of Karnataka in their evaluation study on 'Utilisation of Radio-cum-Cassette Players in Primary Schools of Karnataka'. Support was provided in the form of designing tools of evaluation, data collection strategies, orientation of investigators, data analysis and reporting.

Reports and Other Materials Brought Out during 1996-97

1. Towards a Media Curriculum: Briefs for Educational Media Programmes based on the Primary School Curriculum. A set of 5 books (430 pages in all) containing briefs in Hindi, Mathematics, Environmental Studies, Art Education
2. Workshop Report on Development of Programme Briefs/Basic Samples for Audio Packages for Educable Mentally Handicapped at Primary Level
3. Teachers' Guide for the Use of Audio Packages for Educable Mentally Handicapped at the Primary Level with about 120 Flash Cards as Visual Support (manuscript)
4. Evaluation Report of Audio Programmes on 'Understanding Children and Helping Them to Learn' for Primary Teachers (typed)
5. *Pracheen Bharat Ka Itihaas* (Documentation of the audio series containing Programme Objectives, Briefs and Content Outline)
6. A Series of ETV Programmes on 'Multi-grade Teaching' containing Programme Objectives, Briefs and Content Outline
7. A Series of ETV Programmes for 'Integration of Women's Issues into Curriculum Transaction'
8. Report of Evaluation into Utilisation of Interactive Video Technology in SOPT in Karnataka (typed)
9. Report of the Field Testing of ETV Programmes under Mathematics Series (under typing)
10. A Comprehensive 'ET Curriculum Module' for incorporation in the Elementary Teachers Training Curriculum (under typing)

Annual Report
1996-97

Workshops/Meetings/Seminars/Conferences/Training/Orientation Programmes organised by
Central Institute of Educational Technology (CIET)

S.No.	Title of the Programme	Dates	Venue	No. of Participants
1	2	3	4	5
1.	Workshop for development of detailed Programme Briefs (both ETV and ER) on all Content areas of the Curriculum for Primary Schools with direct focus on MLL Competencies.	15 to 19 July 1996	CIET New Delhi	72
2.	Workshop for development of Teaching-Learning Audio Packages for Educable Mentally Handicapped at Primary Level.	31 July to 3 August 1996	CIET New Delhi	14
3.	Development of a Series of ETV Programmes on Multi-grade Teaching.	3 to 5 October 1996	CIET New Delhi	15
4.	Development of a Series of ETV Programmes on Integration Women's Issues into the Curriculum Transaction of Mathematics and Environmental Studies.		CIET New Delhi	20
5.	Orientation Course in Educational Technology for the Lecturers of Colleges of Education.	3 to 15 March 1997	CIET New Delhi	13
6.	Workshop for Development and Revision of Evaluation Schedules for Interactive Video Technology Project in Madhya Pradesh.	23 to 26 July 1996	RIE Bhopal	15
7.	Development of detailed Programme Briefs for ETV and ER on Mathematics on MLL Competencies for Classes I to V.	15 to 19 July 1996	CIET New Delhi	10
8.	Workshop to plan out details of the Programmes, Content Experts, and Content Brief for DD-3 Mathematics Programmes for Classes X and XII.	5 December 1996	CIET New Delhi	17

1	2	3	4	5
9.	Workshop to workout the Programme Briefs for Maths Programme for Classes X & XII	20 December 1996	CIET New Delhi	19
10.	Orientation of ET Faculty of DIETs for Effective Utilisation of Computers.	6 to 18 January 1997	DAW Indore	13
11.	Orientation of ET Faculty of DIETs in Educational Technology	18 to 28 March 1997	CIET New Delhi	25
12.	Training Course on Script Writing and Production of Educational Audio/Radio Programme.	13 to 20 March 1997	CIET New Delhi	15
13.	Workshop on Selection of Themes and Development of Programmes Briefs for Educational Radio Broadcast 'UMANG' (for 3-6 years Old Children).	13 to 14 June 1996	CIET New Delhi	16
14.	Training Course on Script Writing for ETV.	14 to 18 October 1996	SCERT Aizwal Mizoram	18
15.	Training Course on Audio Script Writing and Production	13 to 20 March	CIET New Delhi	15
16.	Two Meetings of the CIET/SIETs Coordination Committee.		CIET New Delhi	30
17.	Workshop on the Low-Cost Teaching Aids in Collaboration with SIETs Andhra Pradesh and Bihar.		Hyderabad Patna	15
18.	Workshop for Co-ordination and Development of ETV Programmes.	22 to 24 October 1996	CIET New Delhi	6
19.	Training Course in ETV Programmes Production and Basics of Camera Operations, Lighting and Editing.	1 July to 1 November 1996	CIET New Delhi	4

1	2	3	4	5
20.	Basics of ETV Programme Production and Technical Operation.	26 March to 15 April 1996	CIET New Delhi	27
21.	Seventh Children's Educational Video and Audio Festival	3 to 5 October 1996	CIET Ahmedabad	120
22.	Video Documentation of National Science Exhibition	13 to 20 January 1997	RIE Bhubaneswar	5
23.	Training Course on Betacam System VCR and CCD Camera	9 to 17 July 1996	CIET New Delhi (11 from CIET & 14 from SIETs)	25
24.	Training Course in Basic ETV Programmes Production and Technical Operations.	26 March to 15 April 1997	CIET New Delhi	3

VIII

EDUCATIONAL TECHNOLOGY

1997-98

VIII EDUCATIONAL TECHNOLOGY

As a premier institute in educational technology, the Central Institute of Educational Technology (CIET), a constituent of the NCERT, is mainly concerned with development of video and audio programmes, 16mm films and other learning materials, training of personnel in educational technology, media planning, script writing programme, production and technical operation. It is also concerned with conducting research in various aspects of media planning and production, documentation and dissemination of information and material and consultancy in applications and development of educational technology.

Tarang

The CIET is currently feeding a service titled 'Tarang' for young children from the Doordarshan (DD-1). The Educational Television programmes under this service are telecast to children and teachers in 10 States. The duration and days of telecast have since been reduced to 30 minutes and five days a week from the original 45 minutes and six days a week. The Saturday chunk meant for the teachers have been taken away. Efforts are on to get the service restored to its original schedule. During 1997-98, 155 video programmes and 52

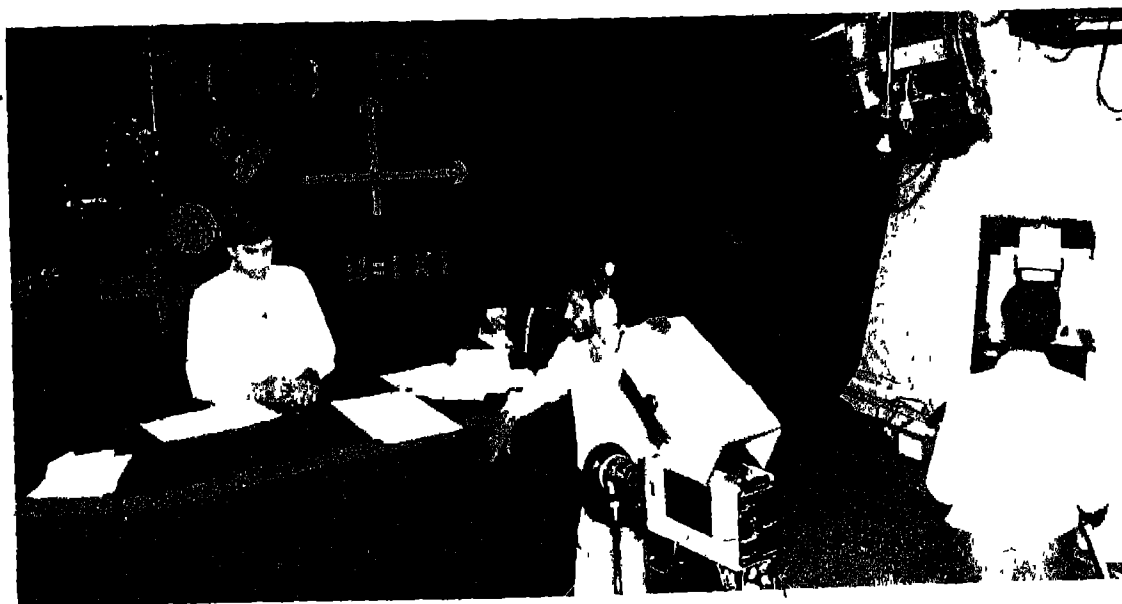
continuities were produced. Most of these were previewed in-house, capsuled and sent for telecast.

Umang

The NCERT has also been broadcasting a weekly audio programme to young children from the All India Radio (AIR). The service is of 10 minutes duration and is titled 'Umang'. These programmes are broadcast from 10 AIR stations: Allahabad, Lucknow, Jaipur, Jodhpur, Bhopal, Indore, Patna, Rohtak, Shimla and Delhi. The MoU signed for the purpose with the AIR has since been renewed for the coming year as well.

Educational Television Programmes

To provide video support in Mathematics and Science for Classes X and XII, the NCERT produced a package of 30 video programmes for Class X and 53 video programmes for Class XII covering the entire syllabi in Mathematics. Support print materials consisting of pre- and post-viewing activities, practical exercises and references for further studies have been prepared. A series of 60 programmes on difficult concepts in Science for Class X have been identified and programme-briefs worked out. Eight ETV programmes were produced



for use as inserts in one week teleconferencing programme organised for 800 teachers of 45 DIETs in Madhya Pradesh. This was besides 25 hours of video coverage provided to the live lectures and question-answer sessions. The areas of coverage included functions of DIETs, universalisation of elementary education, micro teaching, teaching aids, need-based assessment and development of research activities etc. A video programme of 38 minutes duration titled *Shikshan Pranali* for education of the nursery teachers was also prepared

Educational Audio Programmes

During 1997-98, 110 audio programmes were produced. A series of 12 audio programmes on 'Struggle of India's Independence' was produced on 6 cassettes. 7200 cassettes of these programmes have been dubbed for dissemination.

NHK Award

The NCERT's entry *Billi Ka Panja* won special commendation prize in the NHK Japan International Education Programme Contest. The NCERT had won an NHK award last year also.

Educational Films

Eight Films under the 'Land and People' series titled 'Vibrant Ranges' (Hindi version- '*Sanvedansheel Parvatmala*'), 'Nectar from a Plateau' (Hindi version - '*Samrudh Pathar*'), 'A Recipe for Growth' (Hindi version- '*Unnati Ke Aayam*'), 'By the Sweat of their Brows' (Hindi version- '*Mehnat Ka Pasina*') had been completed earlier. Under the same series, two more films 'The Abode of the Gods' (Hindi version- '*Dev Bhumi*') were completed (except processing of final print from laboratory). Hindi version of the film 'Solar Eclipse' titled '*Surya Ki Tajposhi*' was also completed. English and Hindi versions of the films titled 'Warrior Land' and '*Veer Bhumi*' under the 'Land and People' series are in the final stages of editing.

Training

A three-week orientation course on 'Basics of ETV Programme Production and Technical Operations' was conducted for 27 participants comprising of faculty members, producers, script-writers, camera persons, editors, researchers and technicians to enable them develop programme objectives, conduct research, prepare scripts plan and produce educational television programmes. A 13-week technical training programme in Lighting, Camera Operations, Editing and General Maintenance of Studio Equipment was organised for the students of Polytechnic-College, Bhopal, studying in the Diploma Course in Applied Videography. These students developed five video programmes as a part of their final exercises. A training course was organised for 25 participants from the Shramik Vidyapeeth, R.K Puram, New Delhi on various equipments like OHP, Slide Projectors, 16mm Film Projector, VHS-VCR and U-matic, Low Band VCR and Audio Amplifiers. Participants from the National Literacy Mission, New Delhi also participated in the training course. A 10-day Orientation Workshop for ETV Script writers was organised to reorient the writers to the requirements of the visual medium, develop scripts on the selected themes; and in the process developing a cadre of script writers whose expertise can be utilised by the institute in future programme-productions. Four groups, one each for language and mathematics and two for environmental studies, worked to develop 15 scripts. These scripts were field tested for use in the CIET productions. Two Orientation Programmes for teacher educators at the Primary level for DIETs faculty and at the secondary level for the faculty of the IASEs and the CTEs, respectively were organised to familiarise them with the theoretical and practical frameworks of educational technology, characteristics and potentials of various educational media, techniques of classroom instructions, advance computer

technologies and evaluation processes. The participants undertook practical work related to the development and use of media programmes.

Research and Evaluation

Four series of educational TV programmes on mathematics, diseases and science concepts, environmental studies, and globe in geography were field tested. The reports of three of these studies were brought out and disseminated to State Institutes of Educational Technology (SIETs). These studies indicate the extent of understanding of the various ETV programmes on the part of the children, their likings and dislikings, and their ability to sustain attention.

The mathematics programmes produced for the Classes X and XII were field tested and a report titled 'Tele-Math: An Evaluation' was brought out. The report revealed that students were keenly interested in watching the programmes as a support material to classroom teaching with the help of textbooks.

Research articles/abstracts pertaining to children and Educational Television (ETV), Radio and Multimedia programmes have been collected and categorised under the project 'Research Implications for Media Production' which span the years 1980-1996.

A Study to Assess the Needs for Educational Media Programmes about Physical Conditions and Curricular Requirements for Upper Primary School Teachers and Children was initiated. Data from 25 schools was collected and analysis undertaken.

A research study to know the 'Effectiveness of the Radio Broadcasts' under the service titled *Umang* on the Cognitive Development of *Anganwadi* children was initiated. The tools for the study were developed.

Criteria for an effective ETV programme were evolved by a group comprising of educationaists, media personnel, researchers and curriculum specialists. It discussed various factors which have impact on the effectiveness of an ETV programme. The daily ETV transmission was monitored regularly to observe the quality of the programmes, quality of capsuling, continuity and linkage among the programmes in a capsule and extent of repetition etc. Interruption in the schedule of telecast were also noted. The reports were prepared month-wise and shared among the faculty members

Extension

About 200 programmes were got transferred on VHS and other cassettes for making them available to different educational institutions including the constituents of the NCERT. In addition, 1000 sets of audio programmes, containing 5 cassettes each, were provided to the Department of Culture, Ministry of Human Resource Development. To ensure a wider distribution and accessibility to public at large, the NCERT has entered into agreements with the Amicron Magnetics, Electronic Trade & Technology (ET&T) Corporation and New Age Publications for getting copies of its selected audio and video programmes made and marketed to the educational institutions and individuals.

The 'Central Film Library' of the CIET issued 406 films to the members for screening. Two new 16 mm films were added to the Library. For the Book Library, 44 new books were acquired. The Audio and Video Libraries encountered heavy traffic and were used extensively by the SIETs, DIETs and other educational institutions.

Consultancy services were provided to the DIETs in Chennai for procurement of studio equipment and setting up of direct transmission link.

CIET-SIETs Coordination

In the context of discharging its responsibility of coordinating the activities of six SIETs in the States, in their academic and media production activities as also in maintaining the technical studios, two meetings of CIET-SIETs Coordination Committee were organised to formulate the principles underlying the smooth functioning of the SIETs, and for the formulation of Educational Broadcast Policy by the MHRD and starting of regional transmission of programmes by the SIETs.

Reports and Other Materials Brought Out during 1997-98

1. Field Testing of Educational Television Programmes in Mathematics (word processed)
2. Comprehensibility of Educational Television Programmes; *Dhai Sawal and Tayi Ki Chaupal* series: A Report of Field Testing (word processed)
3. Orientation Workshop on ETV Script Writing : A Report ((word processed)
4. Field Testing of Educational Television Programmes on Environmental Studies (word processed)
5. Tele Math. A Report of Evaluation Study (word processed)
6. Orientation Workshop on ETV Script Writing
7. Development of ETV Tutorial Programme Scripts in Maths for Classes X and XII
8. Monitoring and Evaluation of ETV (TARANG)
9. ETV Programme Briefs in Science for Secondary Level (mimeographed)
10. Orientation of DIETs on Educational Technology : A Report



Teleconferencing

Workshops/Meetings/Seminars/Conferences/Training/Orientation programme organised
by Central Institute of Educational Technology (CIET)

S.No.	Title of the Programme	Dates	Venue	No. of Participants
1	2	3	4	5
1.	Orientation Workshop on ETV script writing.	23 April to 2 May 1997	CIET New Delhi	20
2.	Working Group Meeting to work out the details of ETV programme briefs for class-X - Science.	17 to 18 June, 1997	CIET New Delhi	15
3.	Development of Multi-Media package in Art Education performing Arts.	9 Sept. 1997	CIET New Delhi	10
4.	Orientation of DIET faculty on Educational Technology.	23 March to 1 April 1998	CIET New Delhi	18
5.	Development of Scripts for Audio/Radio programme.	26 to 31 May 1997	CIET New Delhi	23
6.	Training Programme in Technical Aspects	April to June 1997 (13 weeks)	CIET New Delhi	5
7.	Training Course on various Technological Equipments.	5 to 15 January 1998	CIET New Delhi	25

IX

EDUCATIONAL TECHNOLOGY

1998-99

IX EDUCATIONAL TECHNOLOGY

As a premier Institute in Educational Technology, the Central Institute of Educational Technology (CIET), a constituent of the NCERT is concerned with design and development of educational video and audio programmes, 16 mm films, computer generated educational software, media planning, script writing, training in programme production and technical operations and training of personnel in educational technology including long-term attachment-based training of students of videography, PG Diploma in Video, Journalism, etc. It is vitally involved in conduction of research in all aspects of educational technology, media planning and production, documentation and dissemination of information and material and rendering consultancy services in the application and development of educational technology in the school education sector, including teacher education.

Educational Television Programmes

Eighty-five educational television (ETV) programmes were scripted and produced during 1998-99 covering a wide range of school subjects like Science, Mathematics, Language, Social Sciences and the Fine Arts for children and teachers. They included scripting of 'Exploring the Universe' a series of 11 programmes in collaboration with IUCAA, Pune, programmes on Agriculture and Animal Husbandry, Low Cost Teaching Aids with Lok Jumbish Parishad, Jaipur and programmes on performing arts such as *Kathak Parichay* involving eminent performer Ms. Uma Sharma

Besides ETV programmes, 29 educational video spots of short duration were conceived, planned and produced. Four of these video spots were on Parental Motivation. Some of the ETV spots unfold certain subtle constitutional provisions like Fundamental



Shooting of Kathak Parichay in Progress at CIET Studio



Duties. Most of the programmes were scheduled for telecast.

Educational Audio Programmes

Ten audio programmes were produced comprising a series entitled *Raag Ras Barse*. The duration of each programme is 10 minutes and teaches the 'Sargam' of 10 different 'Raags', based on the music literature written by Pandit Vishnu Prasad Bhatkhande. The Music Departments of All India Radio and University of Delhi have rendered advice and consultancy.

Educational Films

Two films entitled (i) Abode of Gods; and (ii) Land of Warriors were produced and their Hindi version entitled (i) Dev Bhoomi and (ii) Vee Bhoomi were got completed.

Transmission of ETV and Audio Programmes

Tarang

The CIET is feeding a continuous service of educational satellite television titled *Tarang* for the students of primary and secondary classes and for teachers. The telecast is available on national network on DD-I channel. Since April 1998 the duration of telecast has been increased to one hour and fifteen minutes each day from earlier 30 minutes per day. The current telecast include

Category	No of Programme Capsules	No of Continuities
Primary	179	38
Secondary	132	34
Teachers	162	20
Total	473	92

The immediate feedback about telecast is provided by our viewers through their regular

letters. The reply to their quest for knowledge and clarifications are provided through a regular monthly telecast titled 'Patron Ke Uttar'. The daily telecast is monitored and weekly monitoring reports are presented in the preview session.

Umang

Like *Tarang*, we have weekly broadcast services, for our educational audio/radio programmes. It is known as *Umang* and the programme's broadcast is from ten All India Radio Broadcasting Stations of Allahabad, Bhopal, Delhi, Indore, Jaipur, Jodhpur, Lucknow, Patna, Rohtak and Shimla. It is a ten-minute broadcast, once a week and addressed to young children in the age group of 8-14 years.

Training and Attachment

The CIET is imparting professional training in all aspects of educational technology, including production of programmes, specialised training in equipment maintenance, camera operation and other equipment, editing, etc. Students of videography, Post-Graduate Diploma in Journalism and Video programmes and Animation, etc. are regular trainees on attachment basis, besides DIETs, SIETs, etc. The CIET organised a training course on script writing of educational audio/radio programmes for participants of five SIET states (AP, Bihar, Gujarat, Orissa, UP). An 18 weeks' intensive training course was organised for the final year students of three-year Diploma in Videography of S.V. Govt. Polytechnic, Bhopal. Orientation programmes were organised in Educational Technology for DIETs; for teacher educators at secondary level from IASE/CTEs and

Departments of Education; and in Evaluation for the faculty members of SIETs during the year under report.

Workshops were organised for Punjabi, Bengali, Malayalam and Manipuri dubbing under the programme 'Media Support to SOPT', developing animated characters and animated video programmes for children; developing programme briefs for ETV programmes in vocational education areas, viz. Agricultural Sciences, Home Science, Automobile Engineering, Electronics and Economics and Business Studies, Educational Technology with special emphasis on electronic media for the teacher-trainers of DIET and SCERT personnel; and on Revision/Modification of ETV tutorial programmes in Mathematics for students of senior secondary classes and development of programme briefs for Class XI

Thirty facilitators comprising of DIET faculty, institutional heads and others were oriented on 18 March 1999 at Indore AIR station for facilitating three-day audio conferencing on classroom problems of primary school teachers. The programme was broadcast live from 22 to 24 March 1999. Expert-panelists were drawn from DIET, Devi Ahilya University, Indore, besides CIET faculty. Two hundred primary school teachers participated in the programme at 11 centres

An attachment-based training programme was conducted for a PG student of Sri Padmavati Mahila University, Tirupati from 1 June to 14 July 1998. Two students of National Institute of Design, Ahmedabad were attached for a period of six months and completed six video programmes and one character animation-based video programme as a part of their diploma requirements.

Research and Evaluation

A report on Monitoring of CIET's ETV (*Tarang*) programmes 'Telecast at Primary Level' was prepared. An evaluation study of the interactive video programmes on Teaching of Measurement concept at the level of Class VI was also conducted.

Extension and Development

Computer Cell of CIET

The Computer Cell is equipped with 10 multimedia enabled computers. Since its inception in February-March 1998, this cell has successfully completed database of video programmes, database of personnel of CIET, a website for CIET and development of instructional multimedia material for Grade VI Science. The cell also provides basic word and data processing, graphics, e-mail and internet facilities for CIET

The Central Film Library of the CIET has issued 2,050 films to its members, including faculty members of the Institute for screening and research purpose. It organised a number of film shows for the children, researchers and local educational institutions. Database of its 70 films has been prepared. The audio and video libraries were extensively used by SIETs, CIET, DIETs and different departments of NIE for their training programmes and reference purposes.

National Audio-Video Festival

CIET organised a three-day National Audio/Video Festival at State Institute of Educational Technology, Hyderabad from 28-30 November 1998. All the six SIETs of Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa, Uttar Pradesh, CIET and National Open School participated in the festival. The



CIET got awards in the following categories of ETV programmes besides winning the running shield

5-8 years: Aao Seekhen Pahada

- Best Production: Smt. Anita Malhotra
- Best Direction: Smt. Anita Malhotra
- Best Script: Sh. P.D. Khattar

9-11 years: Sahi Jagah Par

- Best Production: Smt. Anita Gupta
- Best Direction: Smt. Anita Gupta
- Best Creative Use of Animation : Smt. Anita Gupta

Secondary : Oorjagram Ki Sair

- Second Best Production. Ms. Usha Narula

Audio Programme : Nirjeev Sajeev

- Best Production: Shri P.D. Khattar

CIET-SIETs Coordination

Two meetings of CIET-SIETs Coordination Committee were organised at CIET. The representatives of all SIETs, authorities of MHRD-ET Bureau and CIET faculty members participated in these meetings. They presented the status reports of SIETs and CIET in terms of production, research studies, telecast and broadcast, equipment and facilities, budget utilisation, recruitment and the problems encountered in the smooth

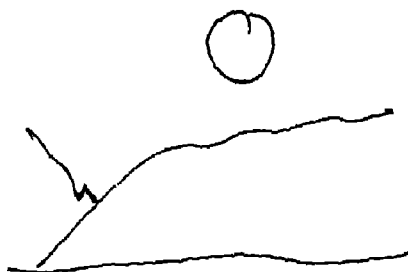
functioning of the Institutes. Financial and administrative issues were discussed threadbare with the representatives of MHRD who provided solutions to some issues and guidance in sorting out the remaining issues. Programme production, utilisation and equipment related issues were taken up with CIET faculty and technical staff. Experiences were shared mutually and strategies and plans were chalked out for the next year.

Regional Inputs in Educational Technology

The RIE, Bhopal organised a workshop on the writing of Radio Script at Elementary Stage in collaboration with SCERT, M.P. during July 1998.

Reports and Other Material Brought Out during 1998-99

1. Report on Need Assessment of Educational Media Programmes for Upper Primary School Children and Teachers (Xeroxed)
2. Media Support on SOPT: All language versions have been prepared (Xeroxed)
3. Instructional Material for the Users of the Package of Math Programmes for Primary Schools.



**Workshops/Meetings/Seminars/Conferences/Training/Orientation Programmes organised
by Central Institute of Educational Technology**

S No.	Title of the Programme	Dates	Venue	No. of Participants
1.	2.	3.	4.	5.
1	Script writing of educational audio/radio programmes	14 to 23 February 1998	CIET	20
2	Orientation programme in Educational Technology for DIETs	23 March to 1 April, 1998	CIET	22
3	Orientation course for teacher educators at secondary level from IASE/CIE	14 to 24 April, 1998	RIE Bhubaneswar	16
4	Orientation course in Evaluation for the faculty members of SIETs	17 to 19 November, 1998	CIET	12
5	Workshop on Development of Animated Characters and Animated Video programmes for children	22 to 23 December, 1998	CIET	25
6	Workshop for developing programmes briefs for ETV programmes in Vocational educational areas viz Agricultural sciences, Home Sciences, Automobile Engineering, Electronics, Economics and Business studies	28 to 31 January, 1999	PSSCIVE Bhopal	22
7	Workshop on Educational Technology with special emphasis on Electronic media for the teacher-trainers of DIET and SCERT personnel	22 to 27 February, 1999	SCERT Kohima Nagaland	26
7 (A)	Evolving Criteria for an Effective ETV Programme	21 to 22 February, 1998	CIET	20
8	Workshop on Revision/Modification of ETV tutorial programmes in Mathematics for students of Senior Secondary classes and development of programme briefs for class XI	16 to 17 February, 1999	CIET	10
9	Orientation programme for facilitators comprising of DIET faculty, institutional Heads and others	18 March, 1999	AIR station Indore	30

		:19:			
10	Audio tele-conferencing o f orientating primary school teachers	22 to 24 March, 1999	Indore	200	
11	Intensive training course for the final year students of 3 years Diploma in videography of S V Govt Polytechnic, Bhopal	18 weeks	CIET	5	
12	Attachment of trainee students from National Institute of Design, Ahmedabad	6 months	CIET	2	
13	Attachment of trainee PG student from Sri Padmavati Mahila University, Tripati	1 June, to 14 July, 1998	CIET	1	

X

EDUCATIONAL TECHNOLOGY

1999-2000



Educational Technology

One of the significant programmes of the NCERT is to promote the use of educational technology, especially the mass media for improvement and spread of education and for development of alternative systems of education in the country at the school level. As a premier institute in educational technology, its Central Institute of Educational Technology is mainly concerned with the assessment of needs, preparation of target group profiles, design and development of Audio and Video Programmes and teaching aids, training of State level personnel in the processes of educational technology viz., scripting, production of media programmes and technical operations. It undertakes activities related to research and evaluation, documentation and dissemination, along with providing consultancy to various organisations in the application and development of educational technology. It has been experimenting with the emerging technologies for developing computerised database of media resources, interactive audio and video programmes including multimedia. Highlights of the programmes

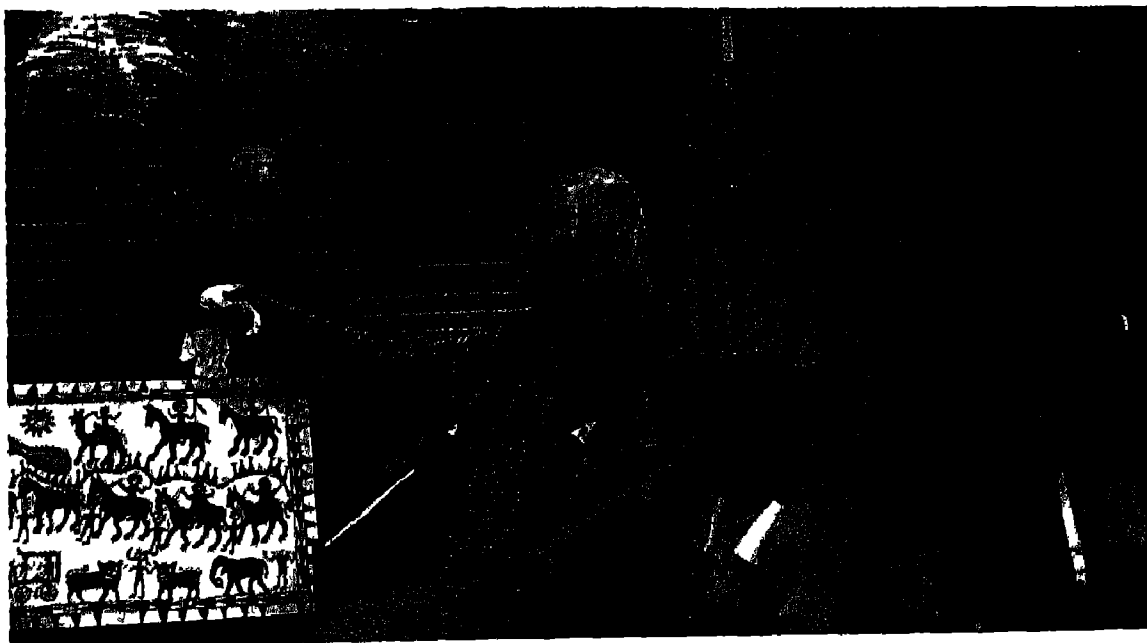
and activities during 1999-2000 in this area are discussed here.

Educational Television Programmes

One hundred eighty one in-house ETV programmes were produced for transmission in the series of mathematics for the students for Class XI, arts and craft education including performing arts, vocational education, environmental education, multigrade teaching, sports, innovative teachers, creative movements and musical instruments, and spots on human rights, the rights of the child, and early childhood education. Another important series under production are 'Exploring the Universe' and 'Space Science'. One programme on Hemis Festival and one under freedom fighter series is nearing completion.

Script Design

Scripts development constitutes an important step in run upto the production of media programmes. ETV scripts designed under



Prof Yashpal, renowned Scientist, in a Children's show under NCERT programme

various series during the year include eleven under "Exploring the Universe" (secondary level), three under "Space Science and Exploration" (secondary level), two under "The Living Planet — Earth" (secondary level), two under "Environment", eleven on "Creative Movement and Musical Instruments", nine ETV scripts under the series "Water and Life" (primary level), three on "Water Motion", two under "Geography series", five in the area of "Home Science", six in "Sericulture and Drip Irrigation" (Agricultural Sciences). Draft of six more scripts have been prepared in Business and Commerce area for Vocational Education programmes, nine under the "Samadhan series" based on discussions of eminent teacher educators on the problems of the teachers, twelve on "Gijubhai Wadheka's Diwaswapna" under the series titled "Ek Ek Kadam Aage", four on performing arts and another four on "musical instruments".

Transmission of ETV and Audio Programmes

Tarang

CIET is feeding one hour and fifteen minute educational television service titled 'Tarang' on the DD-I for students and teachers at secondary and primary levels.

The timings of telecast for various categories are as follows

Telecast Timings	Target Group
05.45 a.m. to 06.00 a.m.	Teachers (seven days a week)
10.00 a.m. to 10.30 a.m.	Secondary and senior secondary students
10.30 a.m. to 11.00 a.m.	Primary school students

Gyan Darshan

Test transmission of dedicated satellite educational channel 'Gyan Darshan' was inaugurated by Hon'ble Minister of Human Resource Development and Information and Broadcasting on 26 January, 2000. The CIET (NCERT) is a partner in running Gyan Darshan and is a nodal agency for school education sector ETV programmes. The institute is contributing software, ETV programmes for a duration of one and a half hours from 6.30 p.m. to 8.00 p.m. every day, out of four hours of transmission on this educational channel. The telecast of programmes from this channel is likely to go up to sixteen hours within a few months for which planning is underway.

Umang

CIET (NCERT) is feeding a 10-minute weekly slot for Audio programmes on the AIR, named



ETV Programme

'Umang' and is broadcast from 195 AIR stations. This is a significant achievement compared to feeding 10 AIR stations in the previous year. The MOU with the AIR has been further extended from the year 1999 to 2001. During the year under report the CIET has produced 61 audio programmes including 20 programmes on teaching of Ragaas/music for young children/ teachers under the series of Raag Ras Barse both for broadcast and non-broadcast modes. Another important activity in the area is of the production of series of programmes on teaching of Sanskrit for the middle school children for the Rashtriya Sanskrit Sansthan of MHRD as a joint venture and sixteen scripts of audio programmes for broadcast under the service titled Umang.

Training and Attachment

The CIET is imparting professional training in all aspects of educational technology especially in designing of scripts, production and post-production techniques (animations and graphics, camera operations and studio lighting, editing etc.), studio related work and for teacher educators at elementary and secondary levels. The Institute is also offering attachments and industrial training to the students of professional institutes.

During the year under report CIET organised training programmes in Non-linear editing for video programmes, operation and practical handling of New Character Generator, theory, practical operation and maintenance of Studio Cameras DXC-D30P, and editing equipment DFS 500 PVF 500 PVW800P.

The CIET also organised a 2-week training programme in Educational Technology for the Educational Technology faculty of the DIETs of North-East States and Orissa, a training programme on Multimedia for the SIET personnel, and a 3-week orientation programme in ET and its implications for the SCERT, Manipur.

Post-Graduate students of Communication Department and Under-Graduate students of

Videography from various Colleges and Universities were attached for Industrial training as part of their professional courses. The Under-Graduate students of National Institute of Design Ahmedabad are associated with Animation Work on the Multimedia Packages of the CIET. They have taken up this work as part of their projects for internship.

SIET-CIET Coordination

One important area of activity pertains to co-ordination and guidance to the activities of the seven SIETs in the country. A CIET-SIETs Coordination Committee Meeting was held on 14th to 16th March, 2000 in which Directors of seven SIETs, production incharge, engineer incharge and editors participated. Each SIET presented the status report worked out the details of the equipment and manpower and discussed the steps to improve the quality of the programmes.

Extension Activities

The CIET is South-East Asia's Centre for Japan's Video Library and receives U-matic/Betacam cassettes of all the NHK awards winning programmes. The Institute participated in the International Educational Video festivals held at Japan, USA and Germany and one of its ETV programmes *Roz Badalte Chand Ke Roop* (Changing Faces of the Moon) won Maeda prize at NHK, Tokyo festival the most popular competition of educational video programmes, for its new slant in educational TV production. Another programme based on a story told through puppets got selected for Video Bar in Munchen, Germany.

Photographic and Video Coverage was provided to the 26th Jawahar Lal Nehru National Science Exhibition held at Rajkot, Gujarat. A series of ETV programme entitled the "Budding Scientists" have been initiated based on the exhibits/models displayed in different national exhibitions held in the current year. An ETV programme produced in the current year exhibition has been telecast both in Gujarati and Hindi.

Consultancy and support was provided to the activity of sister institutions like National

Open School and all the State Institutes of Educational Technology

The Institute is collaborating with the Department of Educational Psychology and Foundations of Education (DEPFE) for preparation of Annotated Bibliography of the Audio and Video Programmes on Value Education.

The Institute has developed a comprehensive database of video programmes storing all the technical details, a set of stills and one minute show reel. The process of retrieval of information has taken into consideration the needs of various potential users viz., ETV library staff, media resource division, producers and academics, publication of catalogues in print or multimedia formats and publishing the entire database on the website of the CIET.

Media Research and Evaluation

The CIET continued to monitor 'Tarang' and 'Umang' services telecast and broadcast from DD-1 and AIR respectively. Since January 26, 2000, it is, in addition, to monitoring the programmes telecast from the Educational Channel named Gyan Darshan. Other activities included: (i) a monthly programme titled *Patron Ke Uttar* based on the analysis of responses from children through the letters; (ii) The study of Interactive Video programmes for teaching of Measurement Concept at Sixth grade level; (iii) Computer Assisted Learning within different subject areas - a meta analysis; (iv) A review of media research titled Effectiveness of Educational Media - A survey of research.

Special Projects

Impact Study of Educational Technology Scheme of the Govt. of India

An impact study of centrally sponsored schemes of the GOI has been taken up by the institute in collaboration with four State Institutes of Educational Technology in the States of Andhra Pradesh, Orissa, Maharashtra, U.P. and Educational Technology Cell of Rajasthan. The Experimental

Study aims at assessing the effects of Educational TV and Radio-cum-Cassette Players (RCCPs) on the achievement of Children in the Curricular and Non Curricular Areas (general awareness, life sustaining skills and value inculcation) as also knowing the perceptions of functionaries involved, parents and community at large on the relevance and usefulness of these programmes. The required research tools have been prepared and pre-test completed. The data including the monitoring and observation reports have since been received and entered into the computer for analysis.

Development of Multimedia CD ROM

An interactive multimedia CD ROM (Courseware) for Class VI Science has been developed. This is based on the NCERT textbooks. This was presented at the inaugural function of the Multimedia Centre at the CIET premises. This very first publication in this new medium was well received by the SCERTs, many DIETs, KVS etc. and request for copies are pouring in. The Govt of Andhra Pradesh is planning to bring out Telugu version of the CD.

Creation of a Website

The CIET has created a website HYPERLINK <http://www.ciet.nic.in> to put up information in the area of Educational Technology. It is registered with various search engines, linked with other related sites and is constantly updated with information about programmes, especially ETV programmes. The site is intended to be developed into a fullfledged portal on educational technology and to incorporate features of training and conferencing.

Quality Improvement of ETV Programmes

A concerted effort is being made to improve the quality of ETV productions by incorporating animated graphics. Ranging from titles to still graphics, 2D animation, 3D animations and cell animation projects have been undertaken for various ETV programmes.

Five students worked on their diploma projects with the CIET, while two of these were cell animation projects, using computers at various stages of their work including line testing, colouring, composting and special effects. The other projects involve small sections of graphics and animation. Supported by video download card system has been able to migrate from shooting graphics and animation projected on the wall, to them being directly ported on to video tape, allowing for a quantum jump in quality.

Regional Inputs in Computer Education

The RIE, Bhopal organised a 10-day training programme on Computer Literacy for DIET faculty of Madhya Pradesh and Maharashtra. Its ET Cell provided all facilities and consultancy.

The RIE, Bhubaneswar organised an orientation programme on educational technology for teacher educators of primary level.

The RIE, Mysore developed sixty audio programmes for the children of Class I and II of Karnataka, 10 audio cassettes in Tamil for children of Classes III and IV. The Institute undertook Script Writing for the development of audio cassettes in English and competency based audio programmes in Tamil language. The Infrastructure facility of the Computer Applications Lab has been enhanced with some additional multimedia software.

Reports and Other Materials Brought Out during 1999-2000

- Aesthetic and Technical Aspects of Sound (Typed)
- A Study of the Interactive Video Programme for Teaching of Measurement Concept at Sixth Grade Level (Mimeographed)
- Computer Assisted Learning within Differing Subject Areas (Mimeographed)
- Effectiveness of Educational Media: A Survey of Research (Mimeographed)
- Mathematics Teaching Aids at the Middle and High School Level (Printed)
- *Samadhan Ek Pahal* (Xeroxed)
- *Ek Ek Kadam Aage* motivated by Gijubhai Wadheka's 'Diwaswapna' (Xeroxed)
- Design and Development of ETV Scripts (Vocational Education-5, Samadhan-9, Performing Arts-4, Musical Instruments-4 and Diwaswapna-12) (Typed)
- Design and Development of 5 ETV Scripts on Sericulture (Vocational Education) (Xeroxed)
- Courseware (Interactive Multimedia) on Science for Class VI (CD ROM) Orientation of Primary School Teachers through Audio Conferencing (Word Processed)

Workshops/Meetings/Seminars/Conference/Training/Orientation Programmes organised
by Central Institute of Education and technology (CIET)

S.No.	Title of the Programme	Dates	Venue	No. of participant
1	2	3	4	5
1.	Training Course in video Non Linear Editing.	6 to 12 December 1999	CIET New Delhi	10
2.	Training Course in Operation and Handling of New Character Generator in collaboration with M/s VGA, Mumbai	10 to 14 January 2000	CIET New Delhi	10
3.	Training Course in Theory Practical Operation and Maintenance of Studio Cameras DXC-D30P	27 to 29 January 2000	CIET New Delhi	17
4.	Training in editing Equipment DFS 500 PVE 500 PVW 800 P.	30 March 2000 to 4 april 2000	CIET New Delhi	10
5.	Meetings of the Central Preview Committee, to preview FTV/Audio Programmes Constituted by the MHRD. (7 Meetings)	last tuesday of every month	CIET New Delhi	10 to
6.	Meetings of the STS-CIET Coordination Committee.	14 to 16 March 2000	CIET New Delhi	40
7.	Meeting of the Standing Committee on Programme Coordination constituted by the MHRD.	18 February 2000	CIET New Delhi	15
8.	Workshop for Development of Research Tools in curricular Areas for Impact Study of Edu. Tech. Scheme of GOJ.	7 to 11 June 1999	CIET New Delhi	15
9.	Workshop for Development of Research tools for Non-Curricular Areas and Assessment of Perceptions.	27 to 31 July, 1999	CIET New Delhi	20
10.	Development of Programme Briefs and Draft Scripts for the Radio Broadcast Umang.	2 to 6 August 1999	CIET New Delhi	15

1	2	3	4	5
11.	Catalogue of Educational TV Programmes 1992-1998.	March 2000	-	-
12.	Catalogue of Educational Radio/ Audio Programmes.	March 2000	-	-
13.	Information Brochure	June 1999	-	-
14.	Ancient Egyptian civilisation: Tutankhamun.	October 1999	-	-